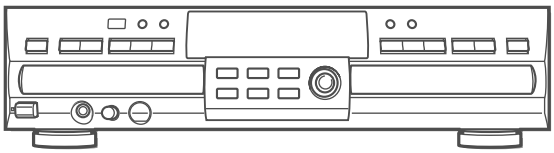
aiwa
SERVICE

XC-RW700 U(B)



SERVICE MANUAL

CD/CD RECORDER

BASIC CD MECHANISM: Q1 CD-P (6721R-0301A)
: E5 CD-R (6721R-0302B)

aiwa

S/M Code No. 09-022-353-4R1

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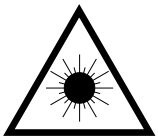
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING -1/1

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
  Advarsel: Usynling laserstråling ved åbning,
- når sikkerhedsafbrydere er ude af funktion.
  Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

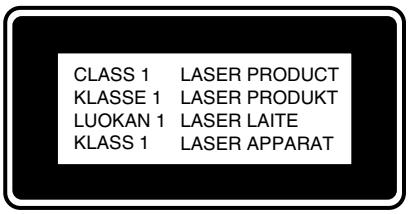
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

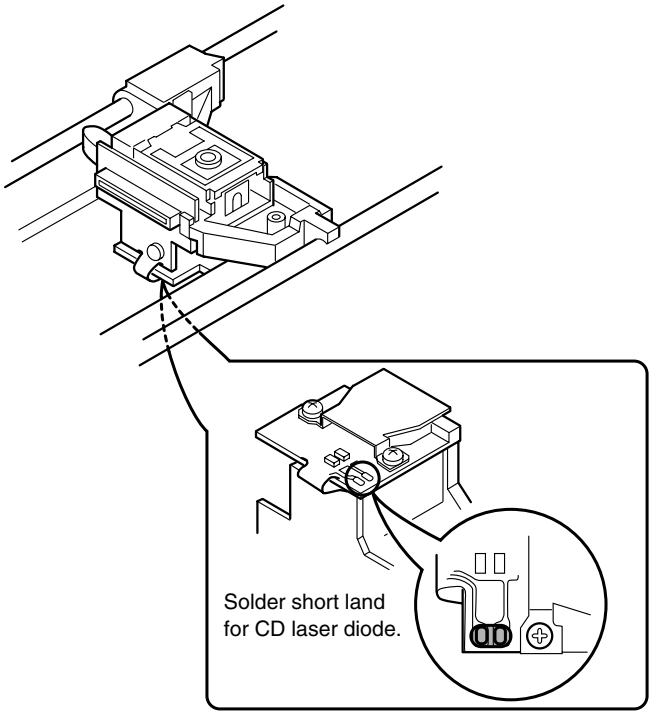


Precaution to replace Optical block

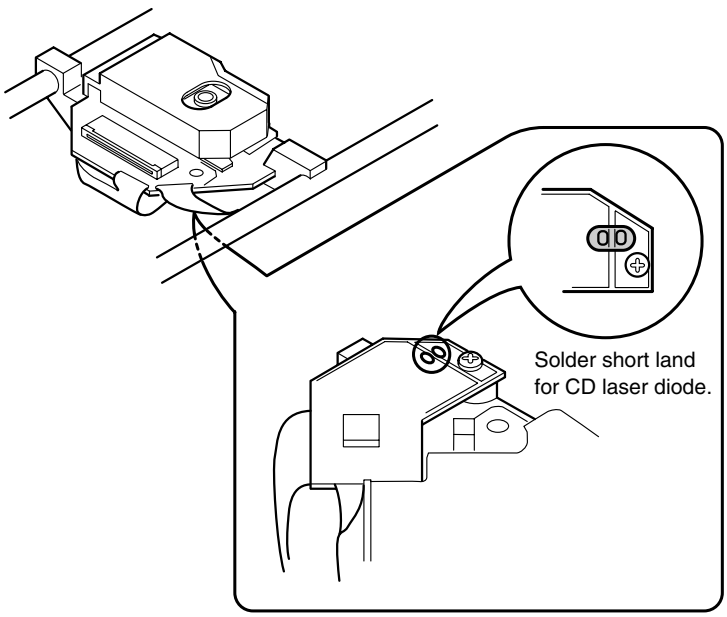
Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and work bench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

(SF-P151EXVA)



(KRS-220C)



SPECIFICATIONS

Discs suppor	CD/CD-R/CD-RW for digital audio
Frequency response	2 Hz to 20 kHz
Playback signal-to-noise ratio	105 dB
Playback total harmonic distortion	0.005% / —88 dB
Digital input sampling frequency range	32 to 96 kHz (sampling rate conversion)
Digital input format	IEC60958
Recording format	16 bits, 44.1 kHz
Analog in	RCA
Analog out	RCA
Digital in	Optical, Coaxial
Digital out	Optical, Coaxial
Power supply	120 V AC, 60 Hz
Power consumption	28 W
Dimensions (W × H × D)	430 × 112 × 363 mm (17.0 × 4.4 × 14.2 in.)
Weight	5.1 kg (11.3 lbs)

• Design and specifications are subject to change without notice.

ACCESSORIES LIST -1/1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S8-29R-DT0-02C		MANUAL ASSY OWNERS AADR640
2	S7-11R-2N0-13H		REMOTE CONTROLLER ASS AADR610

DISASSEMBLY INSTRUCTIONS - 1/2

1. Case Top Removal

1) Release 6 screws.
2) Lift the Case Top with holding the back of it and remove it.

2. Panel Front Removal (See Fig.1, 2)

1) Turn over the set. Insert a screwdriver into slots A and B (shown in Fig. 1), and move the manual pull-out lever of Tray Disc in the direction of the arrow, to pull out the Tray Disc. (See Fig. 1)

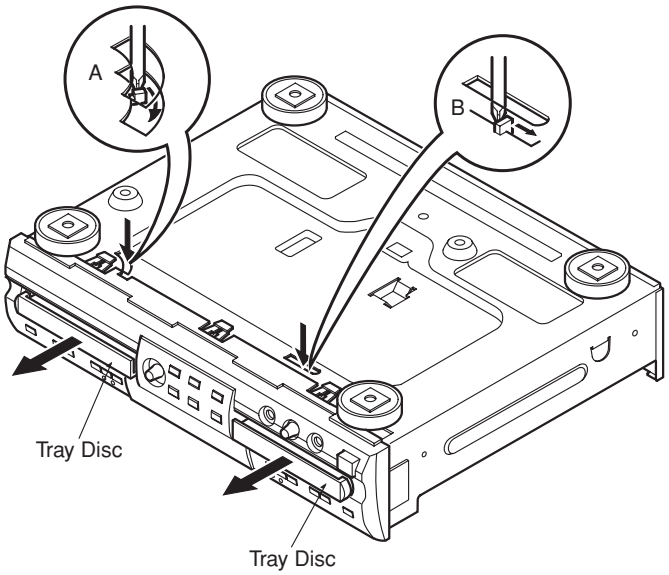


Fig. 1

2) Turn over the set to the original status, and remove the Door CDP and Door CDR in the direction of arrows. (See Fig. 2)
3) Push in the Tray Disc in the direction of the arrow. (See Fig. 2)

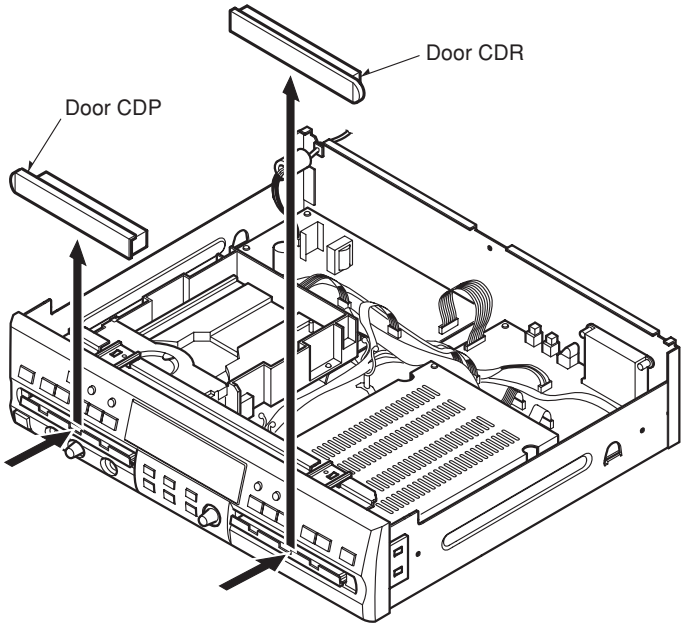


Fig. 2

4) Release CN803 from CD-P C.B and release CN803, CN804 from POWER C.B, AND release CN805, CN806 from I/O C.B. (See Fig. 3)
5) Release Knob VOL and REC and release 7 tabs (A- G), and then release Panel Front in the direction of the arrow. (See Fig. 3)

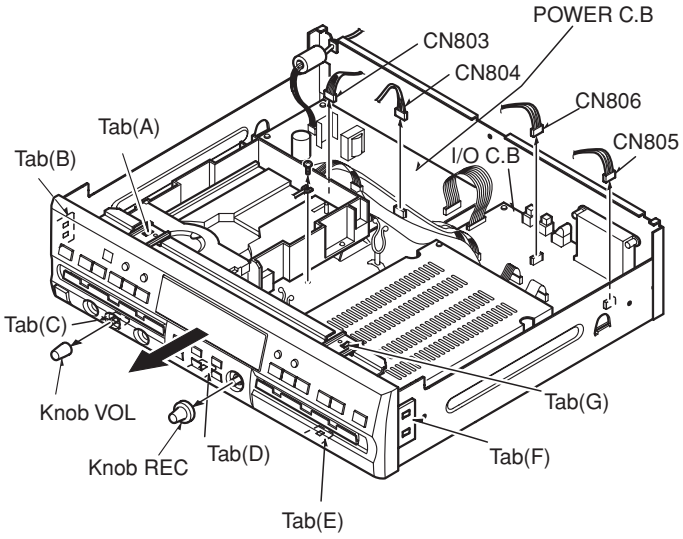


Fig. 3

3. Front (R) C.B, Front (L) C.B Removal

1) Release 9 screws. (See Fig. 4)

4. Power SW C.B Removal

1) Release 2 screws (B). (See Fig. 4)

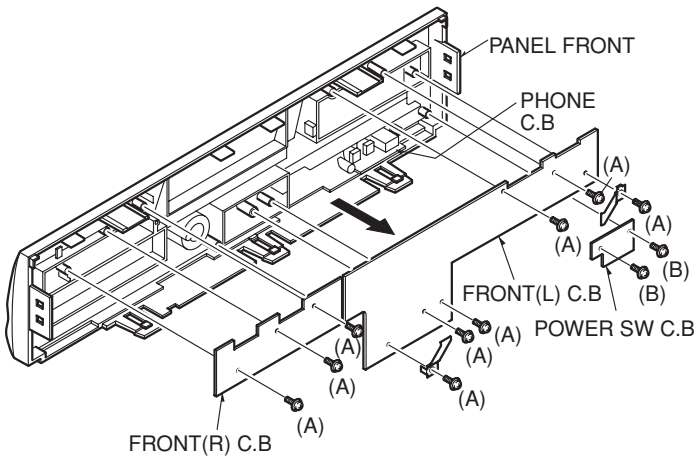


Fig. 4

5. CD-P Mechanism Removal (See Fig. 5)

1) Release CN602, CN606, CN901, PIN603 from CD-P C.B.
2) Release 4 screws (C), and then release CD-P Mechanism in the direction of the arrow.

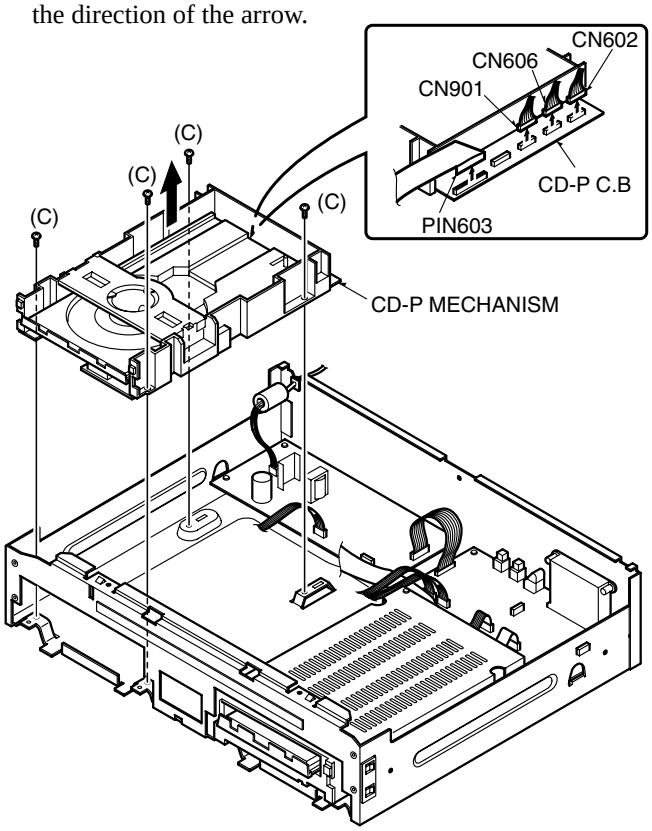


Fig. 5

6. CD-R Mechanism Removal (See Fig. 6)

1) Release CN105, PIN105 from CD-R C.B.
2) Release 4 screws (D), and then release CD-R Mechanism in the direction of the arrow.

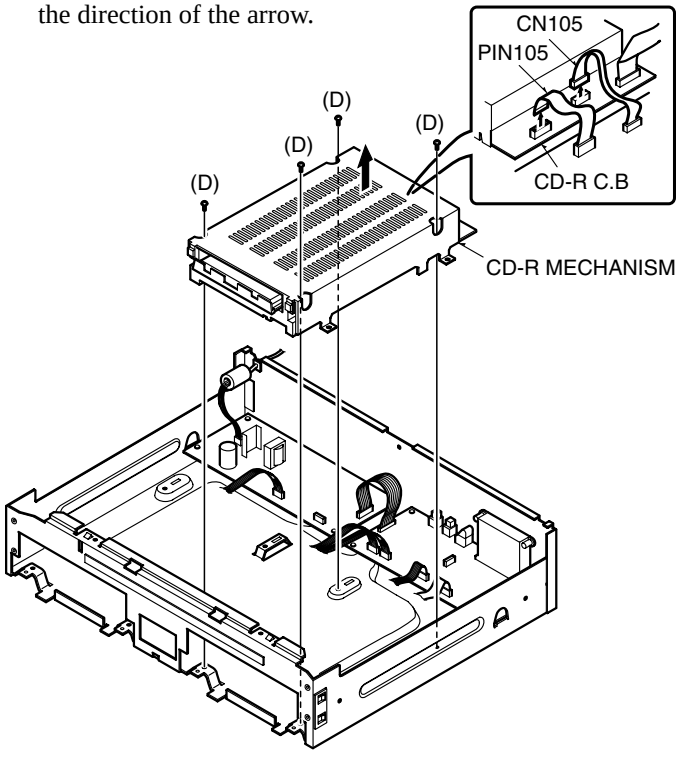


Fig. 6

7. Power C.B Removal (See Fig. 7)

1) Release connector CN301.
2) Release 4 screws (E), and then release POWER C.B in the direction of the arrow.

8. I/O C.B Removal (See Fig. 7)

1) Release 5 screws (F).
2) Release 4 screws (G), and then release I/O C.B in the direction of the arrow.

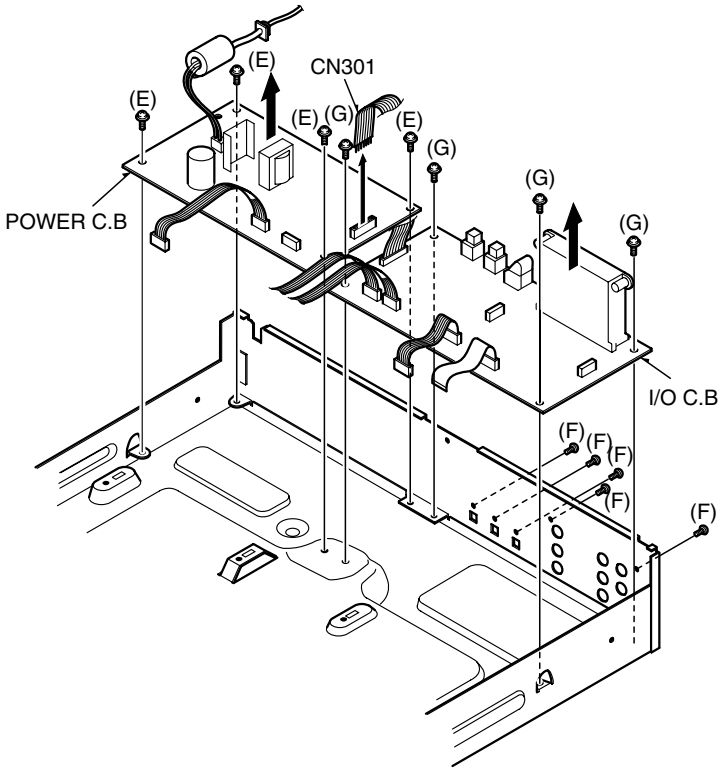


Fig. 7

ELECTRICAL MAIN PARTS LIST - 1/3

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	SI-PH7-404-00F		IC,74HCU04D
	SI-AK4-393-20A		IC,AK4393VF-E2
	SI-AK5-351-20A		IC,AK5351VF-E2
	SI-RH0-330-00A		IC,BA033SFP
	SI-RH3-939-00A		IC,BA3939FP-E2
	SI-RH5-925-00A		IC,BA5925FV
	SI-RH5-983-00A		IC,BA5983FM
	SI-RH6-664-00A		IC,BA6664FM
	S7-A21-450-040		IC,BU4052BCFV
	SI-FA4-053-00A		IC,CD4053BCMX
	8A-AJ1-616-040		IC,CS8420-CSR
	SI-CP0-100-00A		IC,CST0100C
	SI-SO2-551-00A		IC,CXA2551R 100PIN
	87-A21-467-040		IC,CXA2581N
	SI-SO3-011-10A		IC,CXD3011R-1
	SI-ET2-245-00A		IC,EL2245CS
	SI-FA9-386-80A		IC,FM93C86AM8X
	SI-GS7-118-16J		IC,GM71V18163CT-6
	SI-HI6-430-62B		IC,HD64F3062AFBL
	SI-SS4-310-00A		IC,KA431AZ
	SI-SS7-812-00E		IC,KA78R12
	SI-SS7-912-00A		IC,KA7912
	87-A20-525-010		IC,KIA7812PI
	SI-SA1-199-50A		IC,LB11995H-TLM
	SI-MI5-678-80A		IC,M56788FP
	SI-MI6-235-20A		IC,M62352GP
	SI-MA1-251-10A		IC,MN12511
	SI-NS7-665-00A		IC,NC7SZ66M5X
	87-001-792-080		IC,NJM2100M-TE1-DMP
	SI-JR2-903-00D		IC,NJM2903V-TE1
	87-A21-693-040		IC,NJM3403AV-TE1
	SI-JR3-414-00C		IC,NJM3414AM-TE1,3K/REEL
	SI-JR4-560-00B		IC,NJM4560M-TE1-DMP
	SI-JR4-565-00A		IC,NJM4565M-A
	SI-JR5-532-00A		IC,NJM5532
	SI-JR7-808-00C		IC,NJM7808DLA
	SI-OA9-790-00A		IC,OTI-9790
⚠	SI-SK6-153-00A		IC,STR-G6153T 5P
	87-017-856-080		IC,TC4W53FU 8PIN
	87-001-550-080		IC,TC7S04F
	87-017-872-080		IC,TC7W08FUDUAL
	SI-VC0-001-00A		IC,VC00S01
	SI-WI2-425-73A		IC,W24257AS-35
	SI-TR6-130-02E		IC,XC61CN3002PR
⚠	S2-309-024-040		SENSORLTV-817B PHOTO COU
TRANSISTOR			
	ST-R10-370-9BB		C-TR,2SA1037K-Q
	87-026-211-080		C-TR,DTA144EK
	87-026-210-040		C-TR,DTC144EK
	S3-1KR-A10-3M0		TR,KRA103M-TP
	ST-R10-500-9AD		TR,KRA105M
	ST-R10-500-9AB		TR,KRC105M
	ST-R11-510-0AA		TR,KSB1151-Y
	87-026-610-080		TR,KTC3198-TP-BL
	ST-R31-980-9AC		TR,KTC3198-TP-BL
	ST-RKT-D13-020		TR,KTD1302
	ST-R13-040-9BA		TR,KTD1304S
DIODE			
	SD-D18-700-9AC		C-DIODE,KDS187
	87-A40-284-080		DIODE,ERA22-10
	SD-D01-000-9AC		DIODE,EU01W
	SD-RSA-000-20A		DIODE,RECTIFIERS FMB-G24H
	SD-R10-400-9AB		DIODE,RL104
	87-017-352-010		DIODE,RU3YXLF-C1 100V2
	87-A40-970-040		DIODE,SWITCHING KDS121
CD-R C.B			
	C103	SC-H71-06F-621	C-CAP,TN 10UF-16V
	C105	SC-H81-07F-621	C-CAP,E 100UF-16V
	C106	SC-H82-27C-621	C-CAP,E 220UF-6.3V
	C109	SC-H81-07F-621	C-CAP,E 100UF-16V
	C113	SC-H81-07F-621	C-CAP,E 100UF-16V
	C114	SC-H81-07F-621	C-CAP,E 100UF-16V
	C221	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C239	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C243	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C326	SC-H71-06F-621	C-CAP,TN 10UF-16V
	C407	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C415	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C416	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C454	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C455	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C460	SC-H71-06F-621	C-CAP,TN 10UF-16V
	C463	SC-H71-06F-621	C-CAP,TN 10UF-16V
	C467	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C470	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C471	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C473	SC-H81-07F-621	C-CAP,E 100UF-16V
	C504	SC-H81-07F-621	C-CAP,E 100UF-16V
	C529	SC-H71-06F-621	C-CAP,TN 10UF-16V
	C533	SC-H81-07F-621	C-CAP,E 100UF-16V
	C538	SC-H81-07F-621	C-CAP,E 100UF-16V
	C603	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C604	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C609	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C721	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C722	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C750	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	C751	SC-H71-06C-611	C-CAP,TN 10UF-6.3V
	CN102	S6-30R-FB0-2P0	CONN,16P ELCO
	CN401	S6-30H-XE2-32A	CONN,32P 52559-3292
	CN501	S6-30R-FB0-2H0	CONN,8P ELCO
	CN502	S6-30R-FB0-2K0	CONN,11P ELCO
	CN701	S5-617-12D-000	CONN,4P WAFER
	L103	S1-40H-A00-1A0	FILTER,EMI BEAD C,HH-1H4532-12
	L202	87-005-196-080	COIL,NLC322522T-100K 10MH
	L301	S1-40H-A00-1A0	FILTER,EMI BEAD C,HH-1H4532-12
	L302	87-005-196-080	COIL,NLC322522T-100K 10MH
	L306	87-005-196-080	COIL,NLC322522T-100K 10MH
	L308	87-005-196-080	COIL,NLC322522T-100K 10MH
	L401	87-005-196-080	COIL,NLC322522T-100K 10MH
	L402	87-005-196-080	COIL,NLC322522T-100K 10MH
	L403	87-005-196-080	COIL,NLC322522T-100K 10MH
	L701	87-005-196-080	COIL,NLC322522T-100K 10MH
	PN105	S6-30R-3S0-06A	CONN,6P 2.0 GT200
	PN201	S6-30R-3S0-06A	CONN,6P 2.0 GT200
	PN605	S6-30H-XC1-26A	CONN,26P ELCO
	R388	SL-CZB-000-05A	INDUCTOR HB-1M1608-601JT
	RA301	SR-R22-00Q-62A	C-RES,220-1/16
	RA302	SR-R22-00Q-62A	C-RES,220-1/16
	RA303	SR-R22-00Q-62A	C-RES,220-1/16
	RA304	SR-R22-00Q-62A	C-RES,220-1/16
	RA305	SR-R22-00Q-62A	C-RES,220-1/16
	RA306	SR-R22-00Q-62A	C-RES,220-1/16
	RA701	SR-R22-00Q-62A	C-RES,220-1/16
	RA702	SR-R22-00Q-62A	C-RES,220-1/16
	X301	S2-02R-BM0-1A0	C-X'TAL,SMD HC-49/SM5H
	X701	S2-12H-A02-02A	RESONATOR CSACV20.00MXJ040-TC2
CD-P C.B			
	C102	SC-H81-07C-621	C-CAP,E 100UF-6.3V

ELECTRICAL MAIN PARTS LIST - 2/3

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C104	SC-H71-06C-611		C-CAP,TN 10UF-6.3V
C115	SC-H84-76F-621		C-CAP,E 47UF-16V
C116	SC-H81-07C-621		C-CAP,E 100UF-6.3V
C119	SC-H81-07C-621		C-CAP,E 100UF-6.3V
C302	SC-H81-06F-611		C-CAP,E 10UF-16V
C304	SC-H82-27C-621		C-CAP,E 220UF-6.3V
C312	SC-H81-07C-621		C-CAP,E 100UF-6.3V
C410	SC-H81-07F-621		C-CAP,E 100UF-16V
C411	SC-H84-76F-621		C-CAP,E 47UF-16V
C423	SC-H81-06F-611		C-CAP,E 10UF-16V
C504	SC-H81-07C-621		C-CAP,E 100UF-6.3V
C507	SC-H81-07C-621		C-CAP,E 100UF-6.3V
C605	SC-H81-07C-621		C-CAP,E 100UF-6.3V
L203	S1-40H-A00-1A0		FILTER,EMI BEAD C,HH-1H4532-12
L401	87-005-196-080		COIL,NLC322522T-100K 10MH
L501	87-005-196-080		COIL,NLC322522T-100K 10MH
PN201	S6-30R-FB0-2Q0		CONN,17P ELCO
PN301	S6-30R-FB0-2D0		CONN,4P ELCO
PN302	S6-30R-FB0-6F0		CONN,6P ELCO
PN401	S6-30R-FB0-2M0		CONN,13P ELCO
PN601	S6-30R-3S0-06E		CONN,9P 2.0 GT200
PN602	S6-30R-3S0-06D		CONN,8P 2.0 GT200
PN603	S6-30R-3S0-06C		CONN,10P 2.0 GT200
PN604	S6-30R-3S0-06A		CONN,6P 2.0 GT200
PN605	S6-30H-XC1-26A		CONN,26P ELCO
PN606	S6-30R-3S0-06C		CONN,10P 2.0 GT200
X201	S2-02R-BM0-1A0		C-X'TAL,SMD HC-49/SM5H
X501	S2-12H-A02-02A		RESONATOR CSACV20.00MXJ040-TC2

I/O C.B

C101	87-016-513-080		CAP,E 47-35V
C103	87-010-421-080		CAP,E 4.7-50V
C106	87-016-513-080		CAP,E 47-35V
C114	87-010-444-080		CAP,E 22-50V
C115	87-010-444-080		CAP,E 22-50V
C116	87-010-444-080		CAP,E 22-50V
C117	87-010-444-080		CAP,E 22-50V
C120	87-016-513-080		CAP,E 47-35V
C123	87-016-513-080		CAP,E 47-35V
C127	87-016-513-080		CAP,E 47-35V
C129	87-016-513-080		CAP,E 47-35V
C131	87-010-444-080		CAP,E 22-50V
C133	87-010-444-080		CAP,E 22-50V
C202	87-010-112-810		CAP,E 100-16V
C204	87-016-513-080		CAP,E 47-35V
C205	87-016-513-080		CAP,E 47-35V
C209	87-016-455-080		CAP,E 470UF-6.3V
C210	87-010-264-080		CAP,E 100-10V
C211	87-010-264-080		CAP,E 100-10V
C212	87-010-112-810		CAP,E 100-16V
C217	87-010-385-010		CAP,E 220-25V
C220	87-010-444-080		CAP,E 22-50V
C223	87-010-264-080		CAP,E 100-10V
C224	87-010-264-080		CAP,E 100-10V
C231	87-010-444-080		CAP,E 22-50V
C401	87-016-513-080		CAP,E 47-35V
C405	87-016-513-080		CAP,E 47-35V
C406	87-016-455-080		CAP,E 470UF-6.3V
C408	87-010-264-080		CAP,E 100-10V
C409	87-010-264-080		CAP,E 100-10V
C411	87-010-112-810		CAP,E 100-16V
C412	87-010-112-810		CAP,E 100-16V
C413	87-010-264-080		CAP,E 100-10V
C414	87-010-264-080		CAP,E 100-10V
C425	87-010-444-080		CAP,E 22-50V
C426	87-010-444-080		CAP,E 22-50V
C471	87-010-112-810		CAP,E 100-16V
C472	87-010-112-810		CAP,E 100-16V
CN105	S5-636-02P-000		CONN ASSY,6P 60MM

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CN301	S5-616-40J-000		CONN,10P GL200
CN602	S5-636-02M-000		CONN ASSY,10P
CN606	S5-636-02D-000		CONN ASSY,8P 2.0
JK101	S6-12S-C00-8A0		JACK,RCA PJ6031
JK103	S6-20S-L00-1A0		SOCKET,FIBER O GP1F32T
JK104	S6-20S-L00-1A0		SOCKET,FIBER O GP1F32T
JK105	S6-12R-L00-2A0		JACK,FIBER OPTIC TORX178
L103	S2-00S-JC0-1A0		FILTER(CIRC)HB-1M2012-121JT
L104	S2-00S-JC0-1A0		FILTER(CIRC)HB-1M2012-121JT
LY402	S9-20S-000-1A0		RELAY,5V 40MA UD2H-1U-5VDC
PN105	S6-30S-FB0-7P0		CONN,16P ELCO
PN401	S5-617-11F-000		CONN,6P WAFER
PN501	S5-617-11F-000		CONN,6P WAFER
T101	S1-40R-C00-1C0		COIL,CHOKE 100UH B
T102	S1-40R-C00-1C0		COIL,CHOKE 100UH B

POWER C.B

BC901	S6-360-04C-000		COIL,BFS3550R2FD8
BD901	87-070-173-010		DIODE,S1WBA60
C900	87-010-408-040		CAP,E 47UF-50V
⚠C901	S6-240-88F-000		CAP,PCX2 275V 0.1UF,M
⚠C902	S6-240-88F-000		CAP,PCX2 275V 0.1UF,M
C903	SC-E15-7CR-610		CAP,150UF-250V
⚠C905	87-016-375-010		CAP,0.01UF-630V
⚠C906	S6-240-87B-000		CAP,100P-1KV
⚠C913	S6-240-86E-000		CAPACITOR 472/400V
⚠C914	S6-240-86E-000		CAPACITOR 472/400V
C915	87-010-562-040		CAP,E 220UF-10V
C916	87-010-237-910		CAP,E 1000UF-16V
C917	87-010-408-040		CAP,47-50V
C918	87-010-112-080		CAP,E 100-16V
C919	87-010-408-040		CAP,E 47UF-50V
C921	87-010-408-040		CAP,E 47UF-50V
C923	87-010-237-910		CAP,E 1000UF-16V
C924	87-010-237-910		CAP,E 1000UF-16V
C925	87-010-375-080		CAP,E 330-10V
C926	87-010-408-040		CAP,E 47UF-50V
C927	87-010-408-040		CAP,47-50V
C929	87-010-112-080		CAP,E 100-16V
C930	87-010-408-040		CAP,47-50V
C931	87-010-408-040		CAP,47-50V
C932	87-010-112-080		CAP,E 100-16V
C933	87-010-375-080		CAP,E 330-10V
C934	87-010-112-080		CAP,E 100-16V
C935	87-010-412-080		CAP,E 10-25V
C936	87-010-112-080		CAP,E 100-16V
C937	87-010-618-010		CAP,E 2200U-16V
C938	87-010-412-080		CAP,E 10-25V
CN901	S5-636-02Y-000		CONN ASSY,9P 90MM
CN901	563-602Y		GIL-S/GIL-T 9 PIN 90M/M 1571 A
⚠F901	S5-850-27B-000		FUSE,1600MA 250V
FH001	S5-860-08B-000		HOLDER,FUSE CLIP
FH002	S5-860-08B-000		HOLDER,FUSE CLIP
L901	S6-161-45M-000		FILTER(CIRC)V-04350 LS
L903	S6-330-88D-000		COIL,20UH
L904	S6-330-88D-000		COIL,20UH
L905	S6-330-88G-000		COIL,CHOCK TP 5MM
L908	S6-330-88G-000		COIL,CHOCK TP 5MM
L909	S6-330-88G-000		COIL,CHOCK TP 5MM
L910	S6-330-88G-000		COIL,CHOCK TP 5MM
L911	S6-330-88G-000		COIL,CHOCK TP 5MM
PN201	S5-616-44J-000		CONN,10P 2.0 52147-1010
PN904	S6-171-1HA-AA0		CONN,8P WAFER
⚠PW901	S5-612-92B-000		CONN,3P GP390
R901	S6-140-07A-000		RES,CEM 2.7/2W
R902	SR-S10-03K-619		RES,100K-2W
R911	SR-S03-50K-619		RES,0.35-2W
R922	SR-S12-00J-619		RES,M/F 120-1W
R931	SR-S12-00J-619		RES,M/F 120-1W

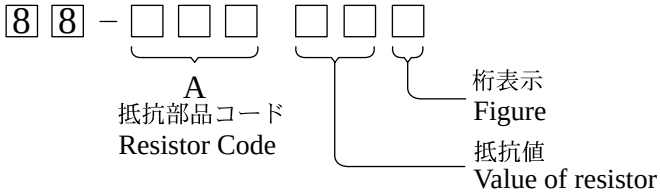
ELECTRICAL MAIN PARTS LIST - 3/3

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
⚠T901	S6-420-23Z-000		TRANSFORMER,SMPS CSE-023Z
W917	87-005-196-080		INDUCTOR,10
ZD901	87-070-136-080		ZENER,MTZJ5.1B
FRONT(L) C.B			
C804	87-010-140-080		CAP,E 47-16V
CN802	S5-636-02U-000		CONN ASSY,4P 150MM
CN803	S5-636-02M-000		CONN ASSY,10P
CN804	S5-636-02D-000		CONN ASSY,8P 2.0
CN805	S6-31R-E00-6C0		CONN ASSY,6P 480MM UL25
FLD801	S3-02R-V10-9A0		DIGITRON BJ-820GNK
PN801	S6-30S-BC0-1H0		CONN,8P 1.25 52061-081
RMC801	SI-RH6-938-40A		IC,RPM6938-V4
SW809	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW810	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW811	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW812	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW813	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW814	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW815	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW816	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW817	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW818	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW819	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW820	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW821	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW822	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
VR802	S1-10R-RL0-1A0		VOLUME,ROTARY RK09L12D0-20KBX2
FRONT(R) C.B			
CN801	S6-30S-BC0-2H0		CONN,8P 1.25 53045-081
PN609	S6-30R-FB0-2F0		CONN,6P ELCO
SW801	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW802	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW803	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW804	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW805	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW806	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW807	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
SW808	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
PHONE C.B			
CN806	S6-31R-E00-6B0		CONN ASSY,6P 480MM UL25
JK802	S5-723-59J-000		JACK,6.4 SOQ4694-01-4101
JK805	S6-12R-L00-5A0		JACK,FIBER OPTIC GP1FH500RZ
VR801	S1-10R-RK0-1A0		VOLUME,ROTARY RK09L12B0-500BX2
POWER SW C.B			
LED801	SD-L32-531-9AA		LED SPR325MVWT31(GRN)
PN802	S6-171-1DA-AA0		CONN,4P
SW823	S5-58T-026-A00		SW,SPECIAL EVQ-214 04M
LOADING MOTOR C.B			
M001	S6-81H-102-4A0		LOADING MOTOR ASSY
PN609	S6-30R-FB0-2F0		CONN,6P ELCO
SW001	S6-00H-XF1-02A		SW,DETECTOR MPU20160MLB0

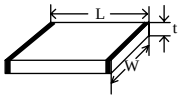
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



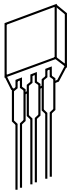
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

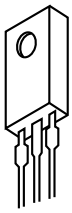
E C B

KTC3198



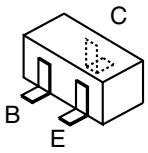
E C B

KRA103M
KRA105M
KRC105M
KTD1302

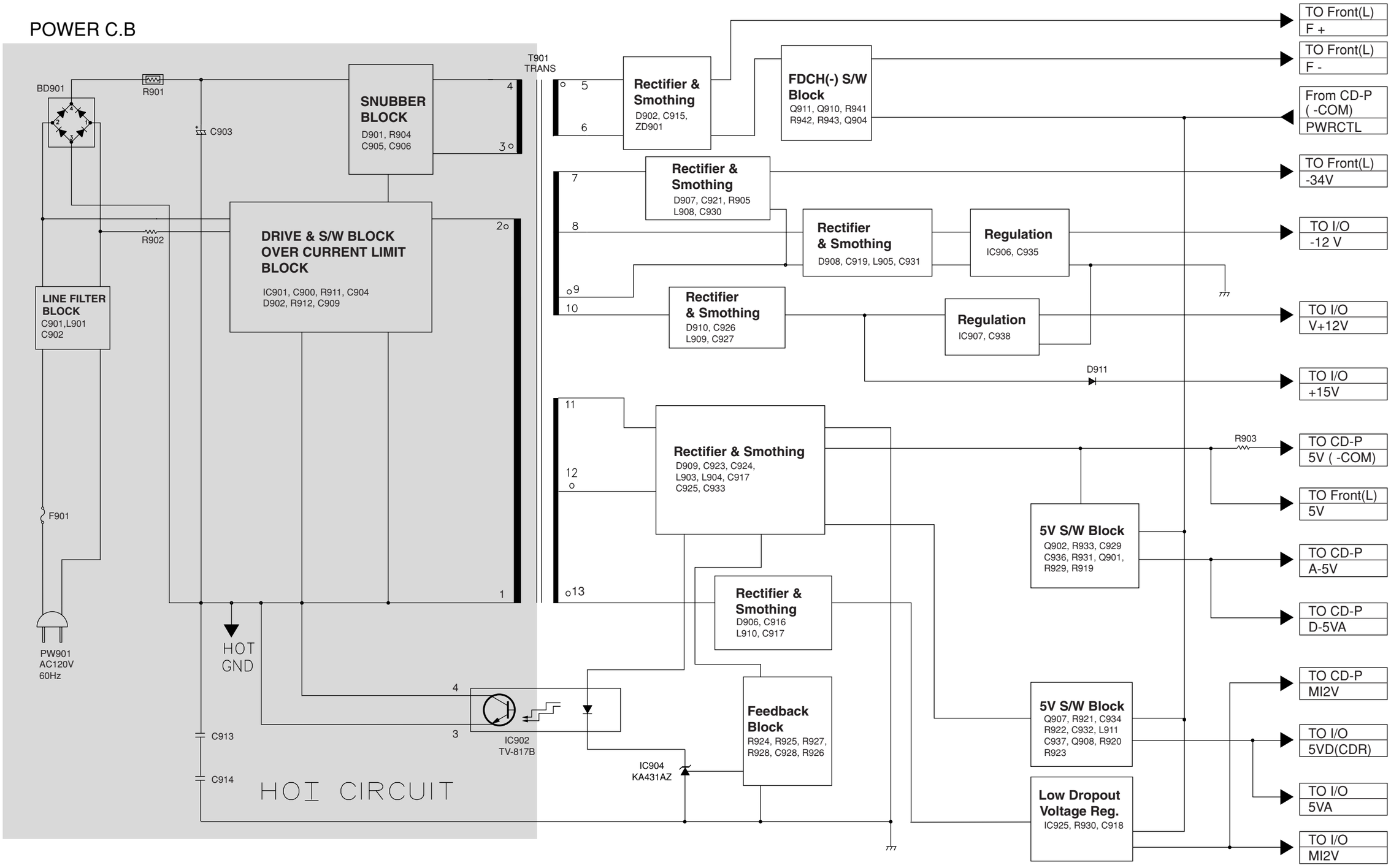


E C B

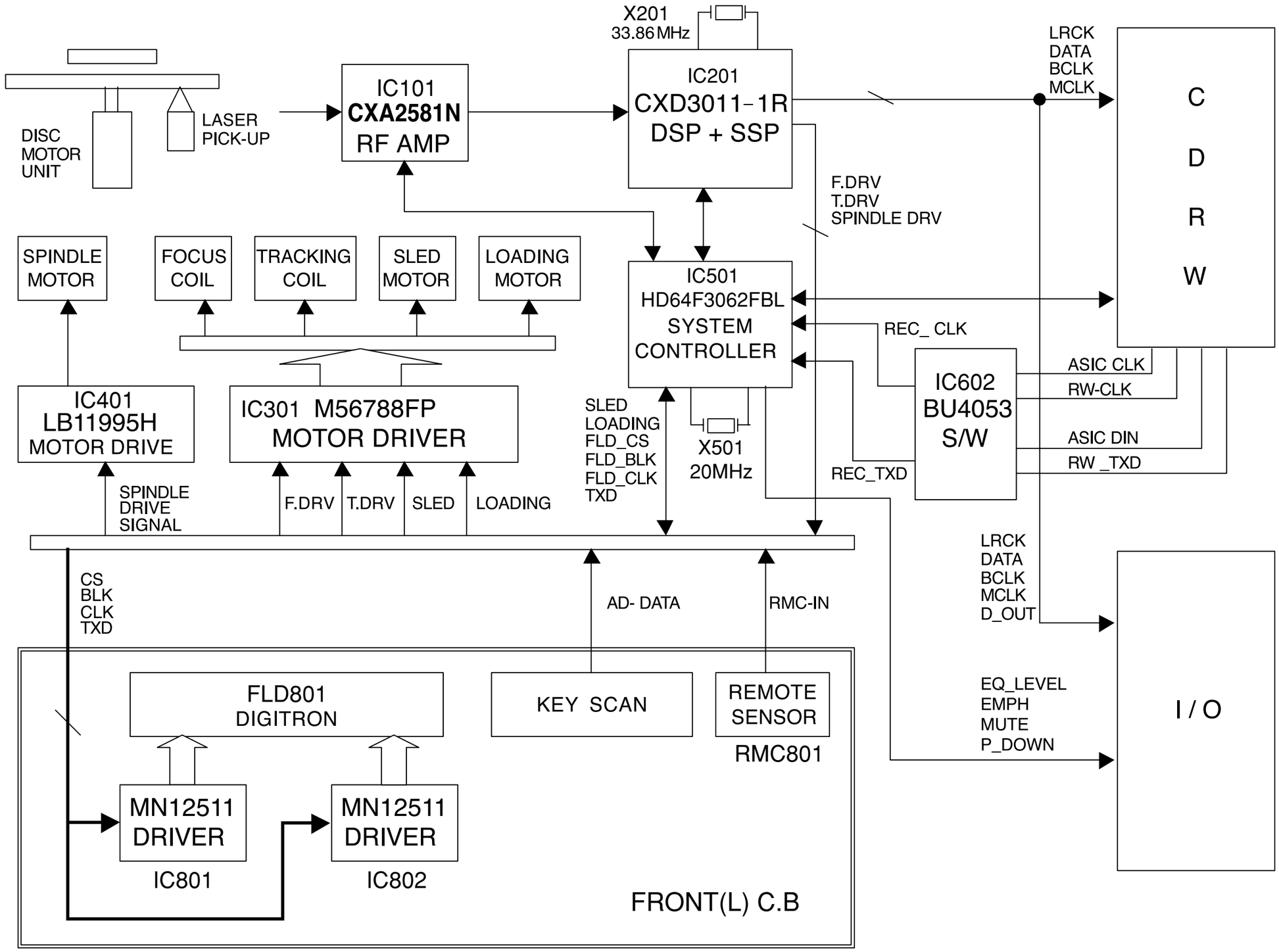
KSB1151

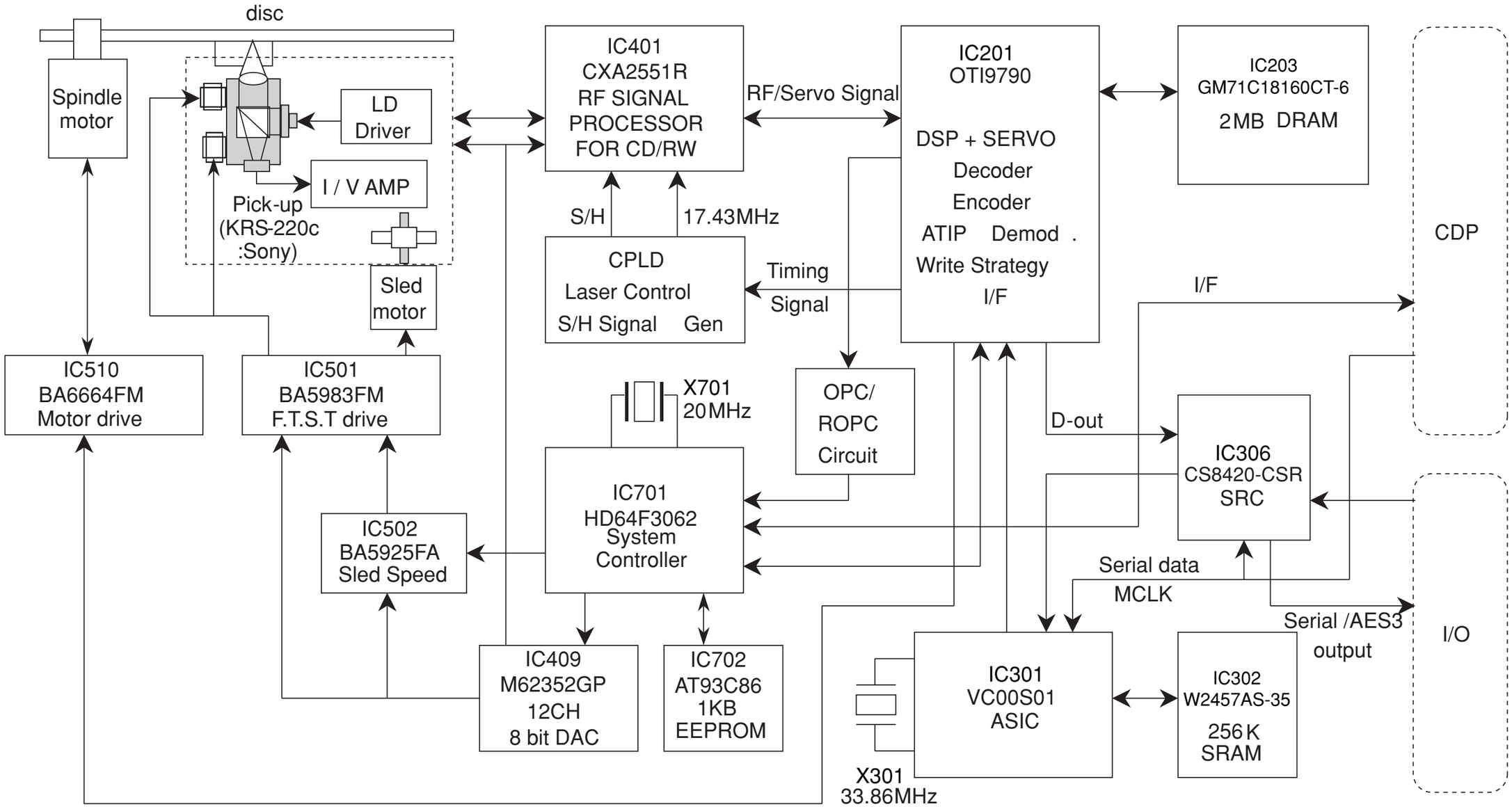


2SA1037
DTA144EK
DTC144EK
KTD1304S

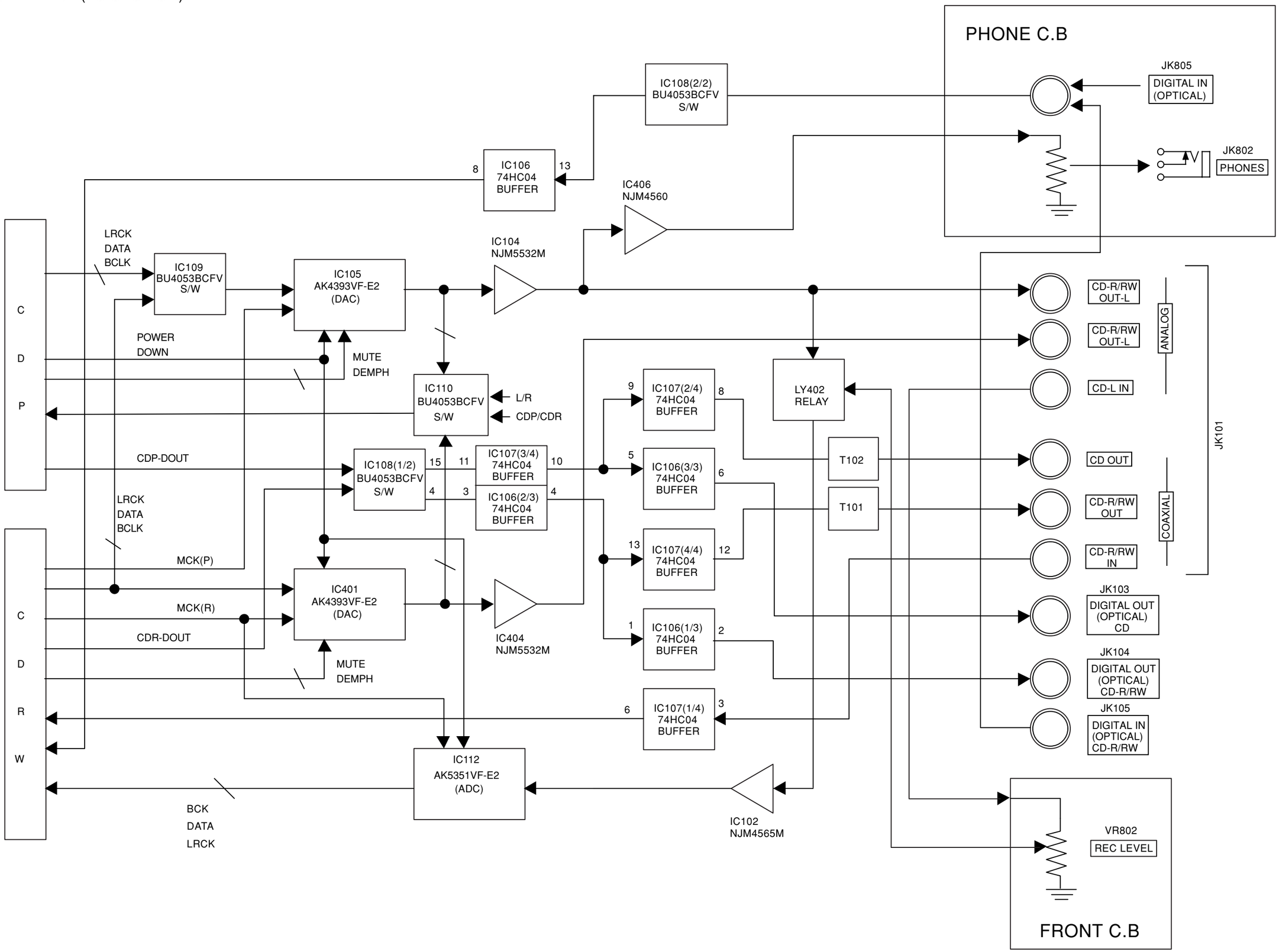

POWER C.B
BD901
R901
C903
SNUBBER BLOCK
D901, R904
C905, C906
T901
TRANS
4
3
2
1
R902
DRIVE & S/W BLOCK
OVER CURRENT LIMIT BLOCK
IC901, C900, R911, C904
D902, R912, C909
LINE FILTER BLOCK
C901,L901
C902
F901
PW901
AC120V
60Hz
HOT
GND
C913
C914
4
3
IC902
TV-817B
HOI CIRCUIT
5
6
Rectifier & Smothing
D902, C915,
ZD901
FDCH(-) S/W Block
Q911, Q910, R941
R942, R943, Q904
TO Front(L)
F +
TO Front(L)
F -
From CD-P
(-COM)
PWRCTL
7
8
9
10
Rectifier & Smothing
D907, C921, R905
L908, C930
Rectifier & Smothing
D908, C919, L905, C931
Regulation
IC906, C935
TO Front(L)
-34V
TO I/O
-12 V
Rectifier & Smothing
D910, C926
L909, C927
Regulation
IC907, C938
TO I/O
V+12V
D911
TO I/O
+15V
11
12
Rectifier & Smothing
D909, C923, C924,
L903, L904, C917
C925, C933
R903
TO CD-P
5V (-COM)
TO Front(L)
5V
5V S/W Block
Q902, R933, C929
C936, R931, Q901,
R929, R919
TO CD-P
A-5V
TO CD-P
D-5VA
13
Rectifier & Smothing
D906, C916
L910, C917
Feedback Block
R924, R925, R927,
R928, C928, R926
IC904
KA431AZ
5V S/W Block
Q907, R921, C934
R922, C932, L911
C937, Q908, R920
R923
TO CD-P
MI2V
TO I/O
5VD(CDR)
Low Dropout Voltage Reg.
IC925, R930, C918
TO I/O
5VA
TO I/O
MI2V

BLOCK DIAGRAM - 2/4 (CD PLAYER SECTION)

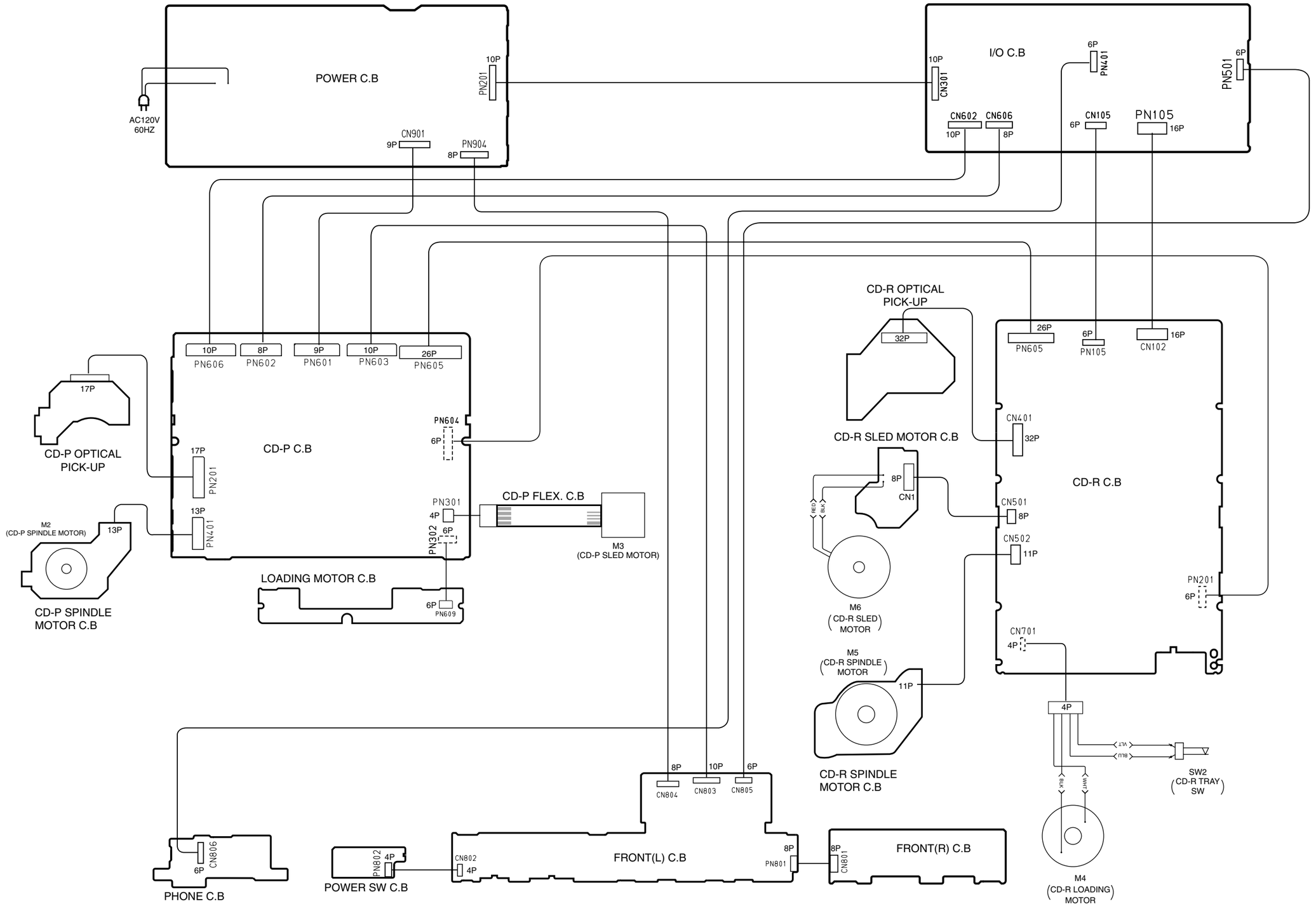



disc
Spindle motor
LD Driver
I / V AMP
Pick-up (KRS-220c :Sony)
Sled motor
IC510 BA6664FM Motor drive
IC501 BA5983FM F.T.S.T drive
IC502 BA5925FA Sled Speed
IC401 CXA2551R RF SIGNAL PROCESSOR FOR CD/RW
RF/Servo Signal
S/H
17.43MHz
CPLD Laser Control S/H Signal Gen
Timing Signal
X701 20MHz
IC701 HD64F3062 System Controller
OPC/ ROPC Circuit
IC409 M62352GP 12CH 8 bit DAC
IC702 AT93C86 1KB EEPROM
IC201 OTI9790
DSP + SERVO
Decoder
Encoder
ATIP Demod .
Write Strategy
I/F
IC203 GM71C18160CT-6 2MB DRAM
CDP
I/F
D-out
IC306 CS8420-CSR SRC
Serial data
MCLK
Serial /AES3 output
I/O
IC301 VC00S01 ASIC
IC302 W2457AS-35 256 K SRAM
X301 33.86MHz

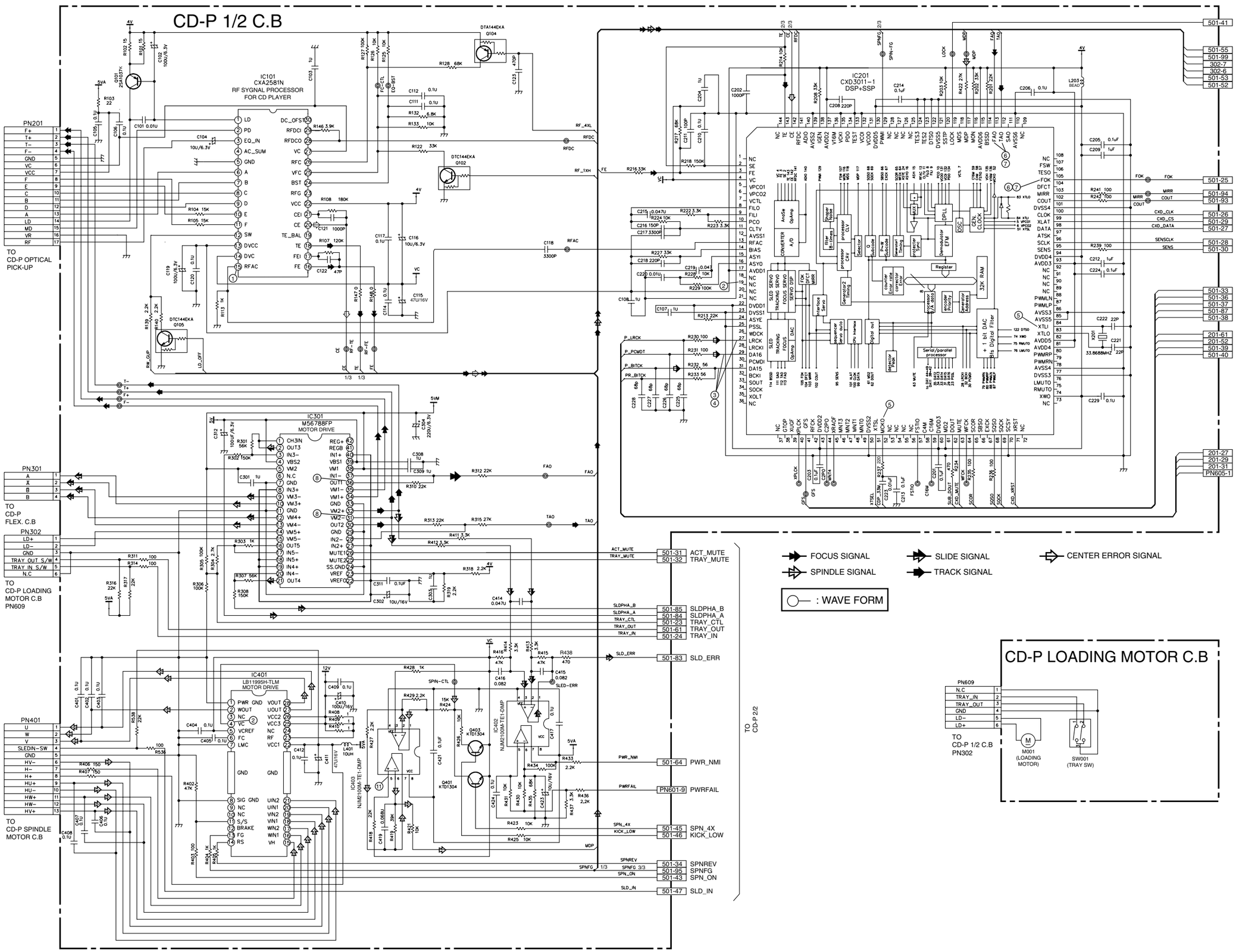
BLOCK DIAGRAM - 4/4 (I/O SECTION)

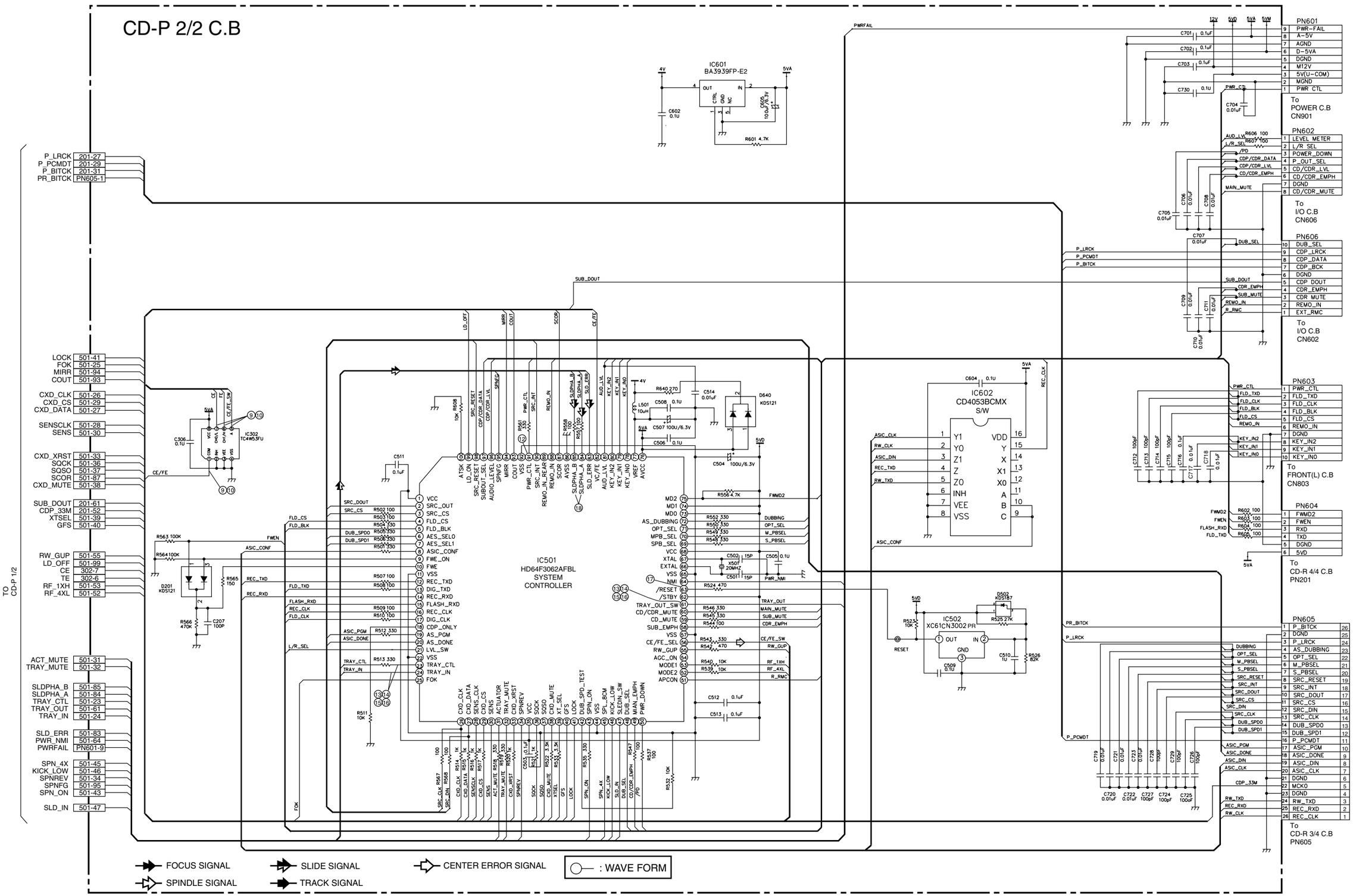


WIRE HARNESS DIAGRAM -1/1

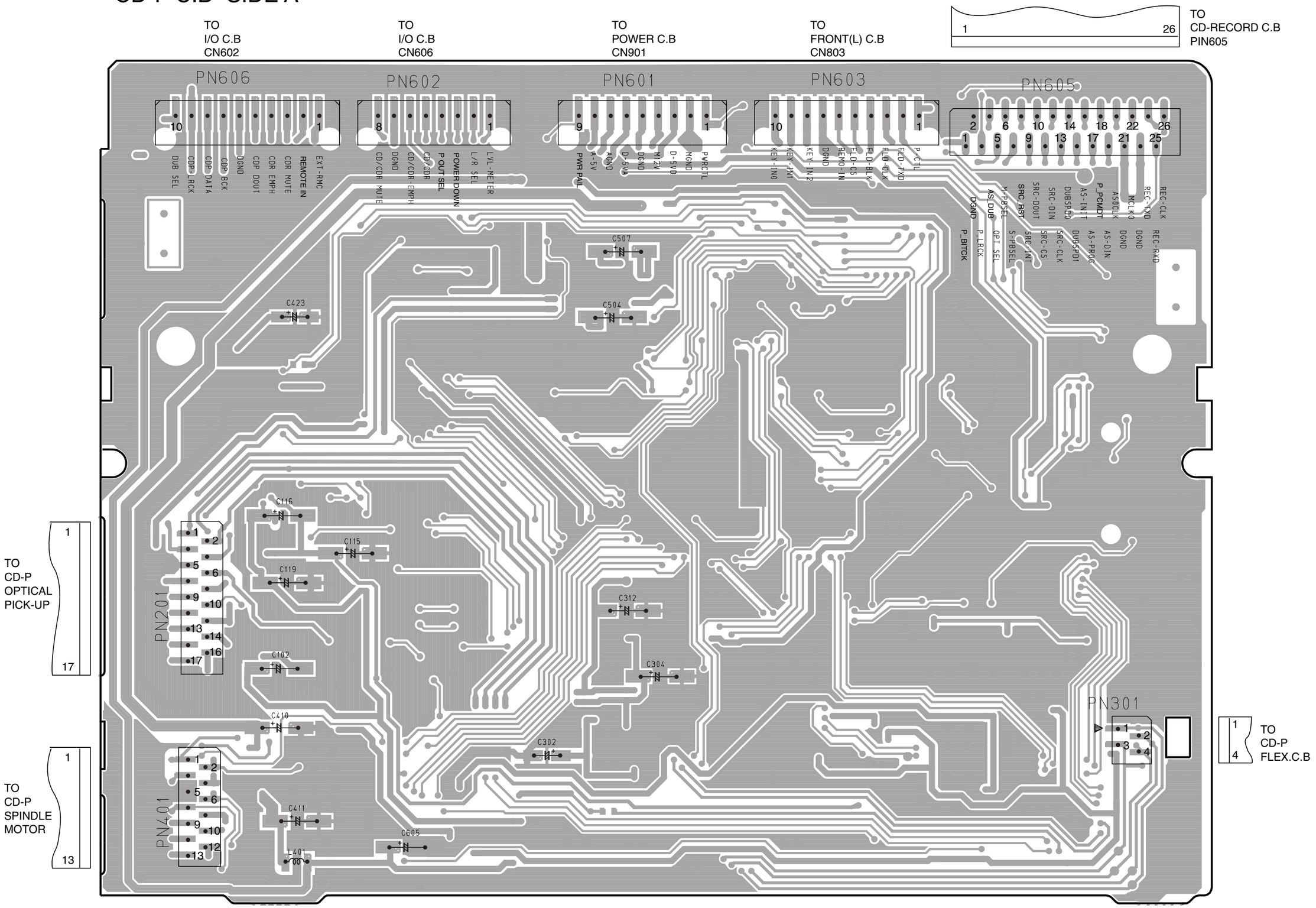


SCHEMATIC DIAGRAM - 1/10 (CD-P 1/2 SECTION)

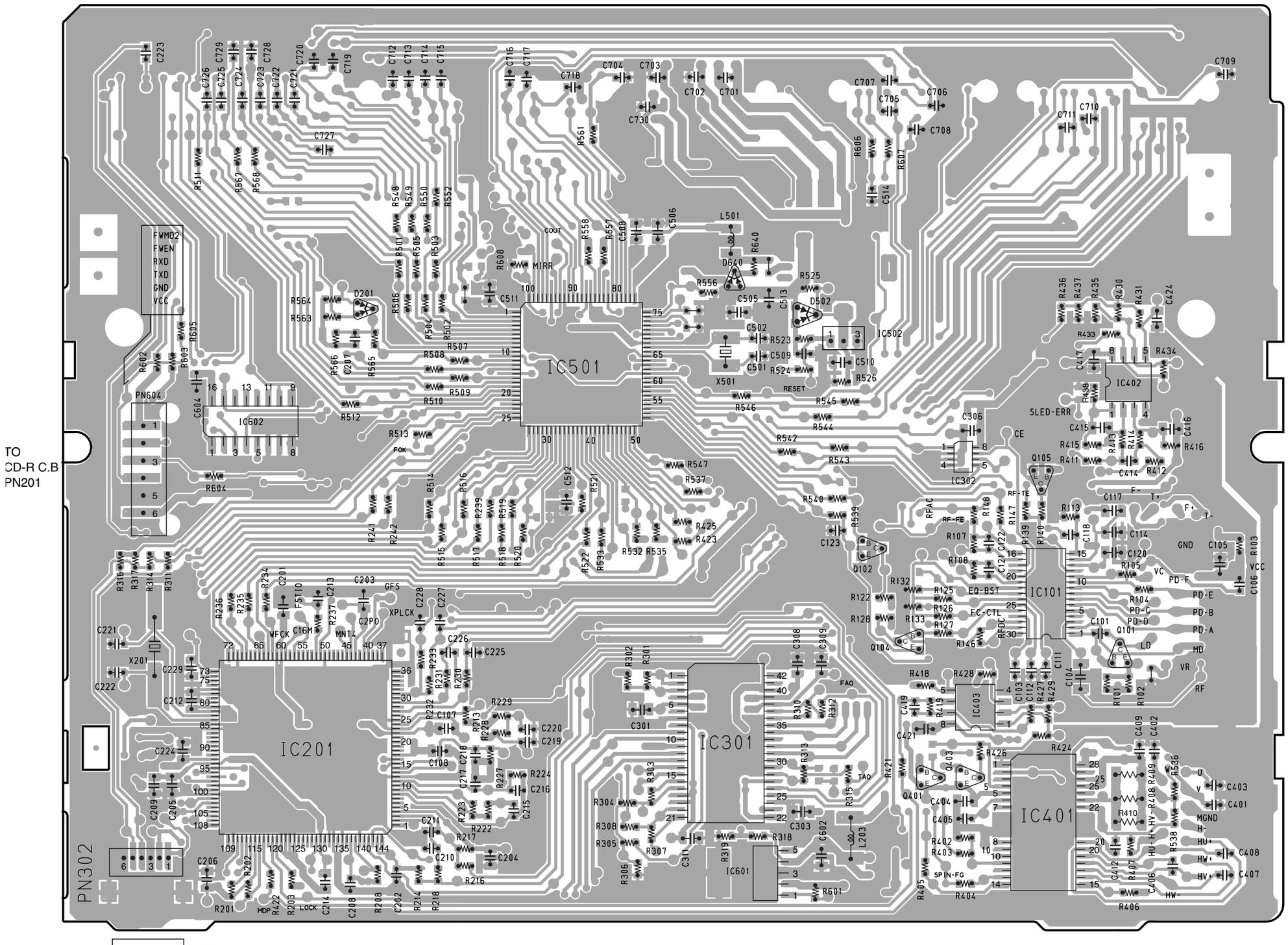



CD-P 2/2 C.B
IC501
HD64F3062AFBL
SYSTEM
CONTROLLER
IC601
BA3939FP-E2
IC602
CD4053BCMX
S/W
IC502
XC61CN3002 PR
IC302
TC4W53FU
PN601
PN602
PN603
PN604
PN605
PN606
To
POWER C.B
CN901
To
I/O C.B
CN606
To
I/O C.B
CN602
To
FRONT(L) C.B
CN803
To
CD-R 4/4 C.B
PN201
To
CD-R 3/4 C.B
PN605
TO
CD-P 1/2
FOCUS SIGNAL
SLIDE SIGNAL
CENTER ERROR SIGNAL
: WAVE FORM
SPINDLE SIGNAL
TRACK SIGNAL

CD-P C.B -SIDE A-


TO
I/O C.B
CN602
TO
I/O C.B
CN606
TO
POWER C.B
CN901
TO
FRONT(L) C.B
CN803
TO
CD-RECORD C.B
PIN605
PN606
PN602
PN601
PN603
PN605
DUB SEL
CDP LRCK
CDP DATA
CDP BCK
DGND
CDP DOUT
CDR EMPH
CDR MUTE
REMOTE IN
EXT-RMC
CD/CDR MUTE
DGND
CD/CDR-EMPH
CD/CDR
P OUT SEL
POWER DOWN
L/R SEL
LVL-METER
PWR FAIL
A-5V
AGND
DGND
M12V
D-5VD
MGND
PWRCTL
KEY-IN0
KEY-IN1
KEY-IN2
DGND
REMO-IN
FLD-CS
FLD-BLK
FLD-CLK
FLD-TXD
P-CTL
DGND
AS_DUB
P_BITCK
P_LRCK
M-PBSEL
OPT SEL
S-PBSEL
SRC_RST
SRC-DOUT
SRC-DIN
SRC-CLK
SRC-CS
SRC_INT
DUBSPDO
DUBSPDI
AS-INIT
AS-PROG
P_PCMDT
ASOCLK
AS-DIN
MCLKO
DGND
DGND
REC-TXD
REC-RXD
REC-CLK
C507
C504
C423
C116
C115
C119
C102
C312
C304
C410
C302
C411
C605
L401
PN201
PN401
PN301
TO
CD-P
OPTICAL
PICK-UP
TO
CD-P
SPINDLE
MOTOR
TO
CD-P
FLEX.C.B

CD-P C.B -SIDE B-



TO
CD-R C.B
PN201

TO
SWITCH C.B
PN609

CD-R 1/4 C.B

IC401
CXA2551R
RF SIGNAL PROCESSOR
FOR CD/RW

IC403
NJM3403AV-TE1

IC404
NJM2903V-TE1

IC405
BU4052BCFV

IC406
NJM3414AM-TE1

IC407
NC7SZ66M5X

IC409
M62352GP
8bit DAC

IC411
NJM3404AV

IC412
TC7W08FU
DUAL

IC413
EL2245CS

IC414
NC7SZ66M5X

IC514
NJM3414AM-TE1

IC601
CST0100C
LASER CONTROL

IC103
BA3939FP-E2

CN401

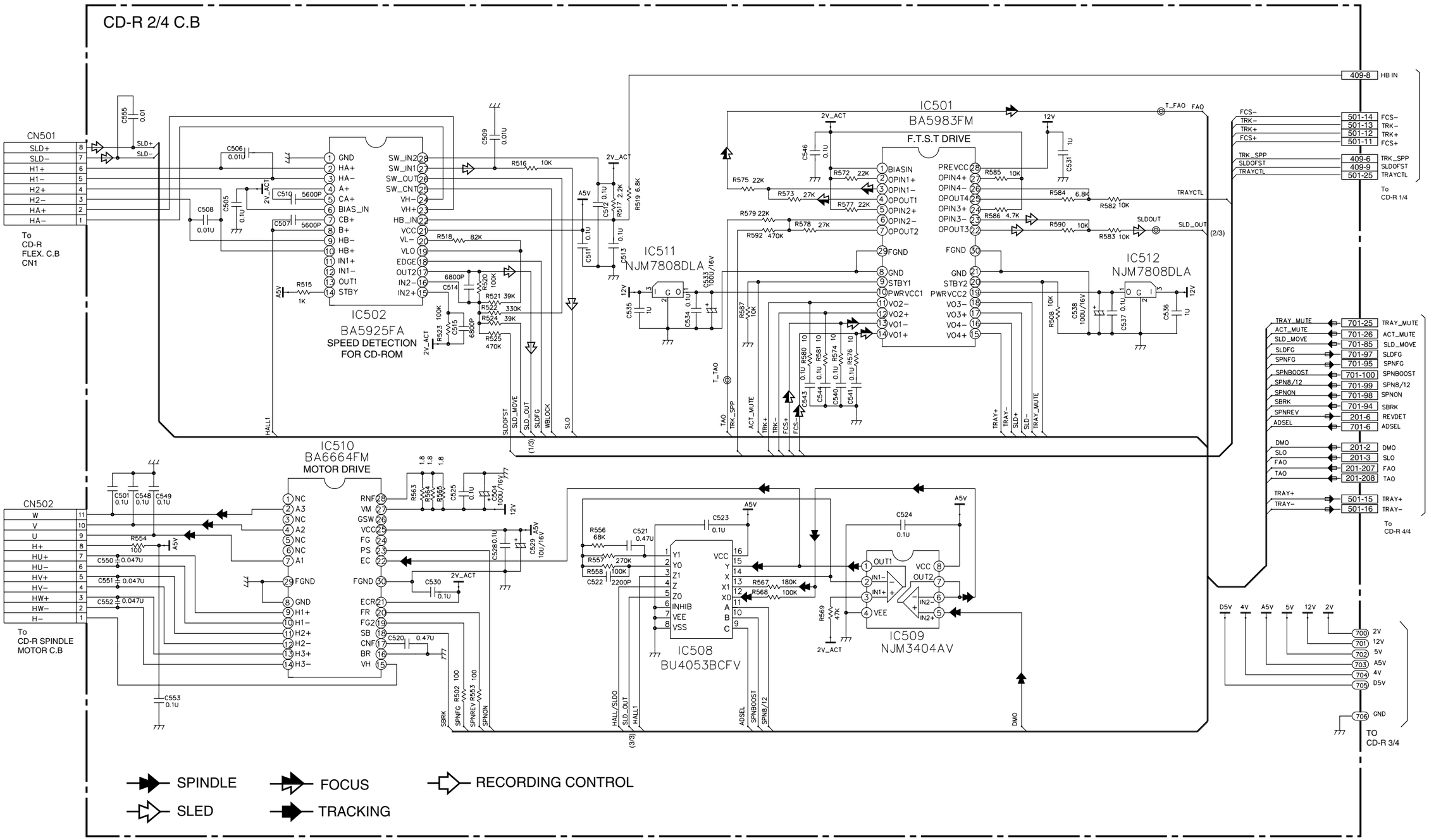
To CD-R OPTICAL PICK-UP

To CD-R 2/4

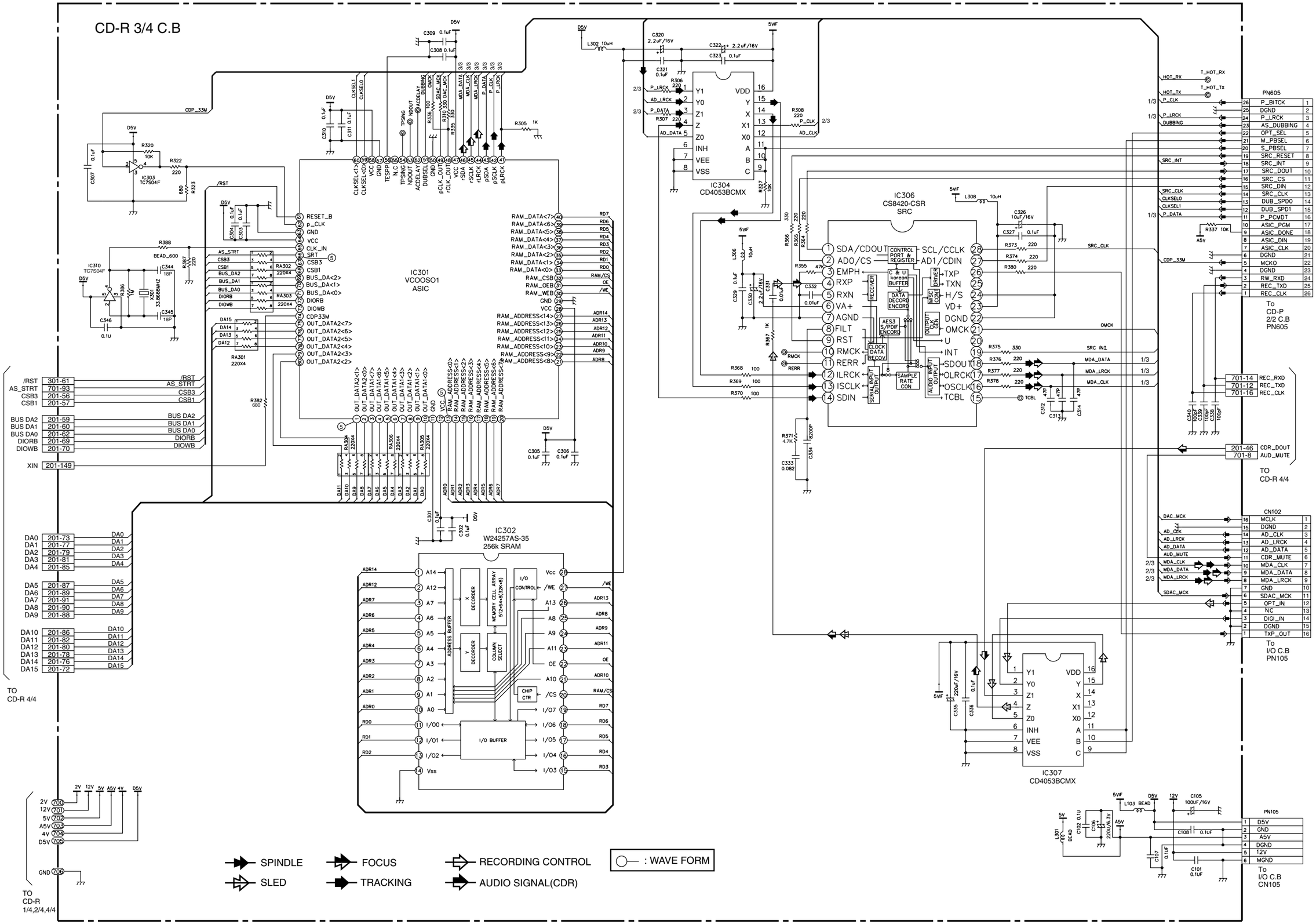
To CD-R 4/4

TO CD-R 3/4

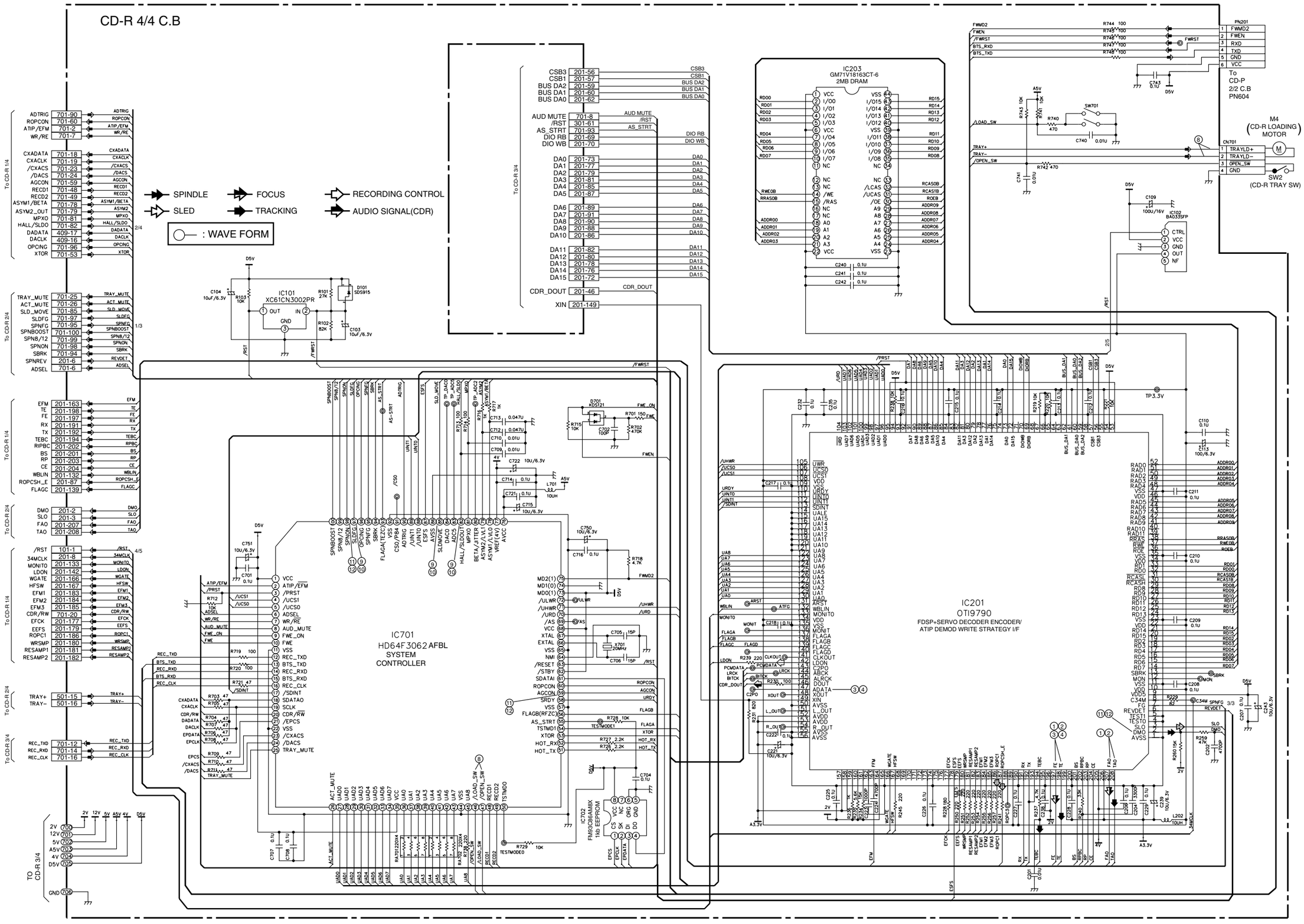
RECORDING CONTROL
SPINDLE
FOCUS
SLED
TRACKING
: WAVE FORM


CD-R 2/4 C.B
CN501
SLD+ 8
SLD− 7
H1+ 6
H1− 5
H2+ 4
H2− 3
HA+ 2
HA− 1
To CD-R FLEX. C.B CN1
IC502
BA5925FA
SPEED DETECTION FOR CD-ROM
IC501
BA5983FM
F.T.S.T DRIVE
IC511
NJM7808DLA
IC512
NJM7808DLA
IC510
BA6664FM
MOTOR DRIVE
IC508
BU4053BCFV
IC509
NJM3404AV
CN502
W 11
V 10
U 9
H+ 8
HU+ 7
HU− 6
HV+ 5
HV− 4
HW+ 3
HW− 2
H− 1
To CD-R SPINDLE MOTOR C.B
409-8 HB IN
501-14 FCS−
501-13 TRK−
501-12 TRK+
501-11 FCS+
To CD-R 1/4
409-6 TRK_SPP
409-9 SLDOFST
501-25 TRAYCTL
701-25 TRAY_MUTE
701-26 ACT_MUTE
701-85 SLD_MOVE
701-97 SLDFG
701-95 SPNFG
701-100 SPNBOOST
701-99 SPN8/12
701-98 SPNON
701-94 SBRK
201-6 REVDET
701-6 ADSEL
201-2 DMO
201-3 SLO
201-207 FAO
201-208 TAO
501-15 TRAY+
501-16 TRAY−
To CD-R 4/4
700 2V
701 12V
702 5V
703 A5V
704 4V
705 D5V
706 GND
TO CD-R 3/4
SPINDLE
FOCUS
RECORDING CONTROL
SLED
TRACKING

SCHEMATIC DIAGRAM - 5/10 (CD-R 3/4 SECTION)



SCHEMATIC DIAGRAM - 6/10 (CD-R 4/4 SECTION)



CD-R C.B -SIDE A-

TO
CD-R
SPINDLE
MOTO C.B

TO
CD-R
FLEX. C.B

TO
CD-R OPTICAL
PICK-UP

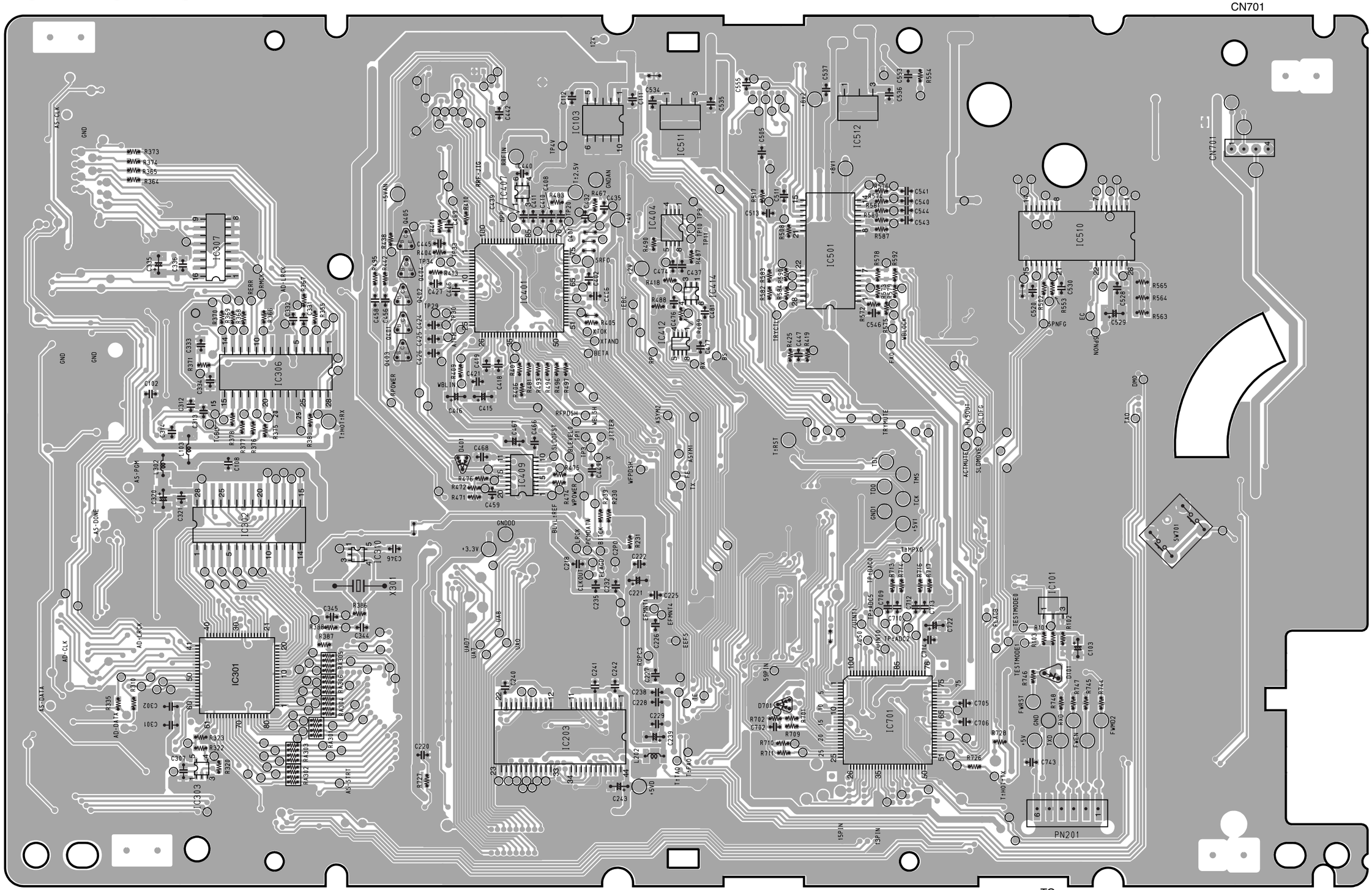
TO
CD-P C.B
PN605

TO
I/O C.B
CN105
PN105

TO
I/O C.B
PIN105

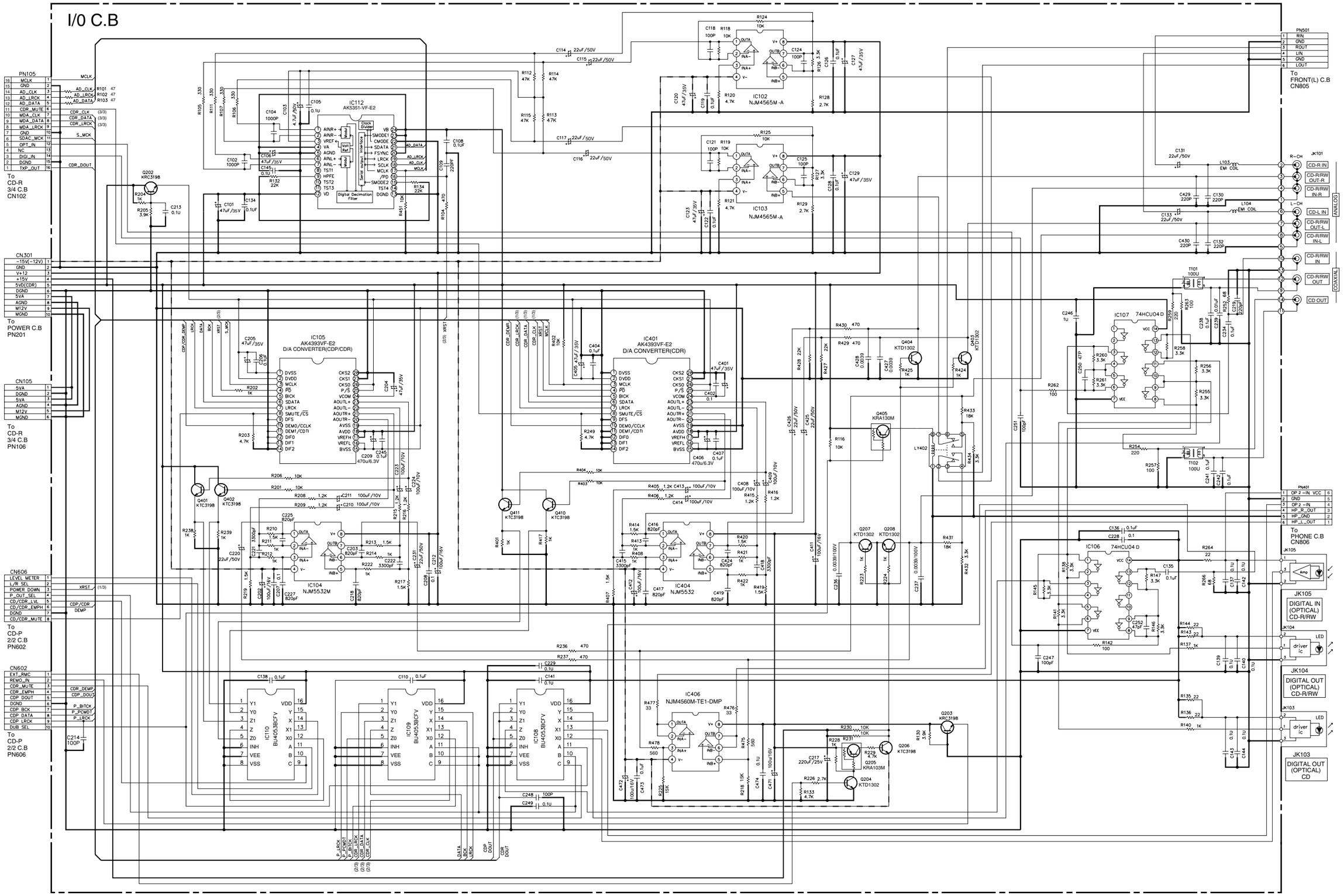
CD-R C.B -SIDE B-

TO
CD-R LOADING
MOTOR
⬇
CN701

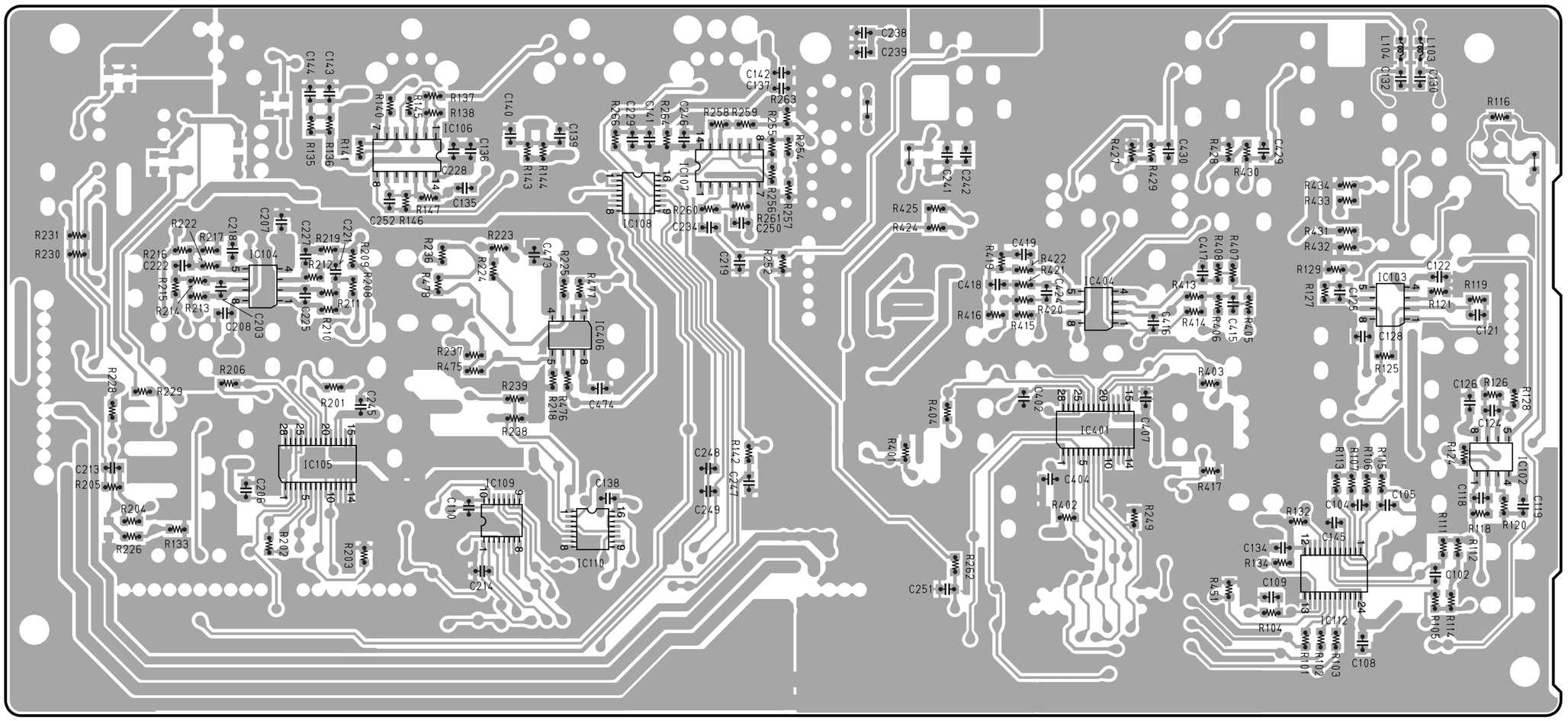


TO
CD-P C.B
PN604

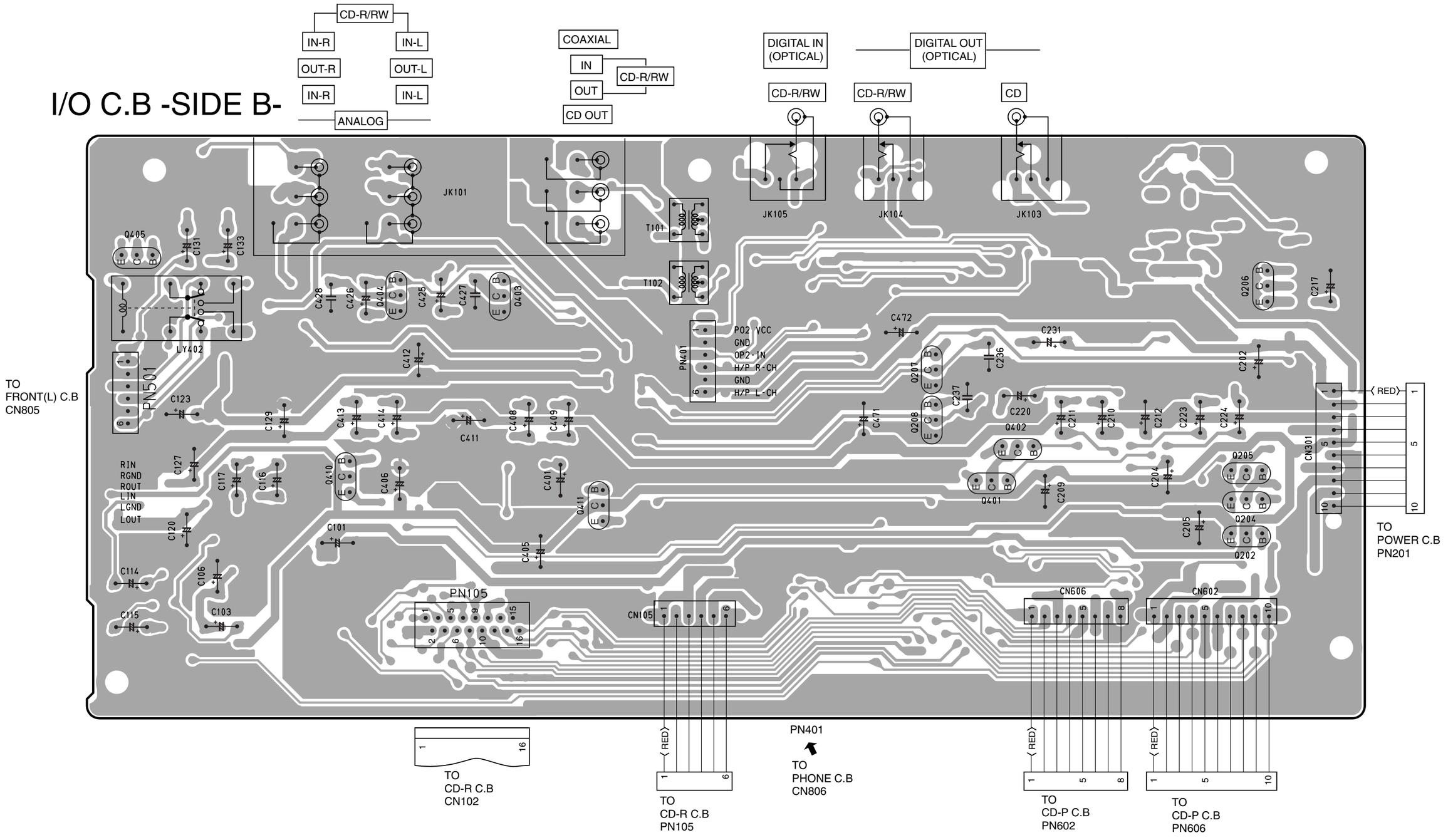
SCHEMATIC DIAGRAM - 7/10 (I/O SECTION)



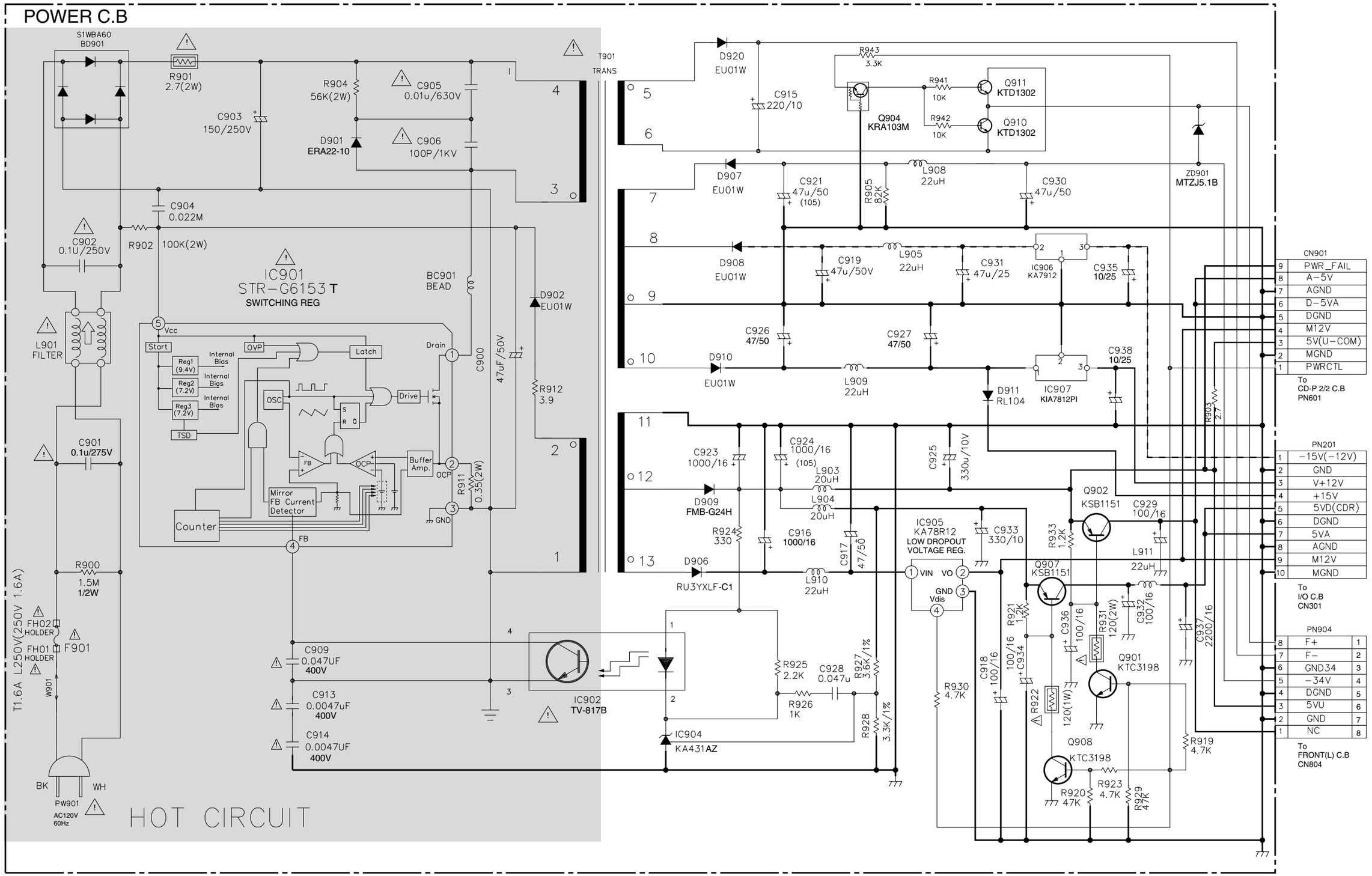
I/O C.B -SIDE A-


IC104
IC105
IC106
IC107
IC108
IC109
IC110
IC401
IC402
IC403
IC404
IC406
IC102
IC103
IC112

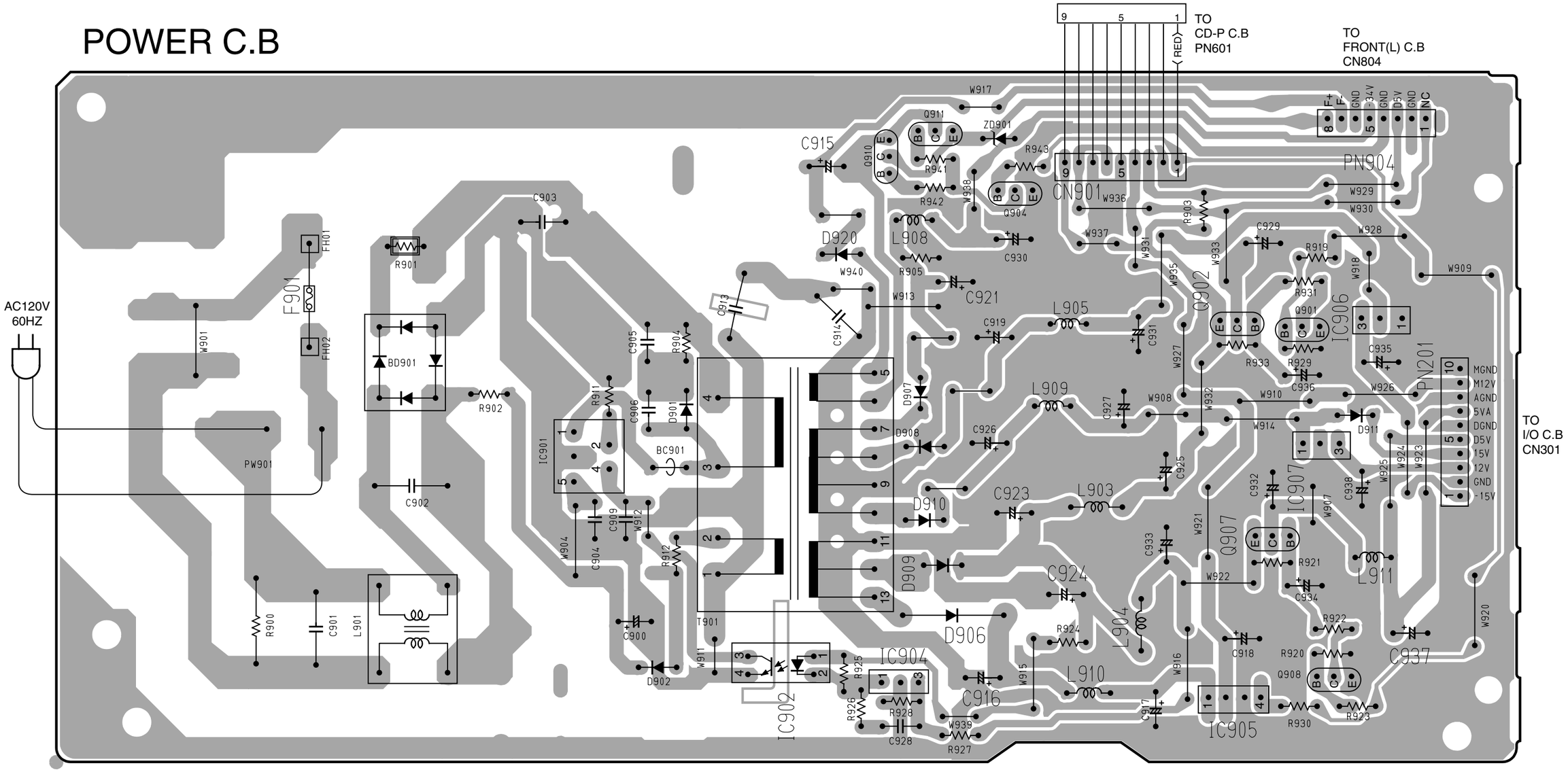
I/O C.B -SIDE B-


CD-R/RW
IN-R
IN-L
OUT-R
OUT-L
IN-R
IN-L
ANALOG
COAXIAL
IN
CD-R/RW
OUT
CD OUT
DIGITAL IN (OPTICAL)
DIGITAL OUT (OPTICAL)
CD-R/RW
CD-R/RW
CD
JK101
JK105
JK104
JK103
T101
T102
PN401
P02 VCC
GND
OP2-IN
H/P R-CH
GND
H/P L-CH
PN501
LY402
Q405
Q404
Q403
Q206
Q207
Q208
Q402
Q401
Q205
Q204
Q202
Q410
Q411
C131
C133
C428
C426
C425
C427
C217
C472
C231
C236
C202
C237
C220
C123
C129
C413
C414
C411
C408
C409
C471
C211
C210
C212
C223
C224
C127
C117
C116
C406
C401
C204
C209
C205
C120
C101
C405
C114
C106
C115
C103
RIN
RGND
ROUT
LIN
LGND
LOUT
PN105
CN105
CN606
CN602
CN301
RED
TO FRONT(L) C.B CN805
TO POWER C.B PN201
TO CD-R C.B CN102
TO CD-R C.B PN105
PN401
TO PHONE C.B CN806
TO CD-P C.B PN602
TO CD-P C.B PN606

SCHEMATIC DIAGRAM - 8/10 (POWER SECTION)



POWER C.B


AC120V
60HZ
PW901
W901
F901
FH01
FH02
BD901
R901
R902
C902
C903
R900
C901
L901
C900
D902
T901
W911
IC902
C905
R904
D901
BC901
IC901
C906
R911
C909
W912
C904
W904
R912
C913
C914
C915
D920
W940
W913
L908
R905
C921
D907
D908
D910
D909
D906
C916
W939
R927
C928
R928
R926
R925
IC904
C926
C923
L903
C924
L904
L910
C927
W908
L909
L905
C919
C931
W927
W915
W916
C917
C918
IC905
R930
Q908
R923
C937
R920
R922
C934
W922
L911
R921
Q907
W921
C933
C925
W932
W933
W914
W910
C936
C935
R933
R929
Q902
R931
C929
W937
W931
W935
W936
W938
Q904
R943
R941
R942
Q910
Q911
ZD901
W917
CN901
W928
W929
W930
PN904
R919
W918
W909
IC906
Q901
W926
PN201
D911
W907
IC907
C932
C938
W925
W924
W923
R903
W934
W919
W927
W908
W910
W914
W932
W933
W935
W936
W937
W938
W939
W940
W941
W942
W943
W944
W945
W946
W947
W948
W949
W950
W951
W952
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W955
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W957
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W960
W961
W962
W963
W964
W965
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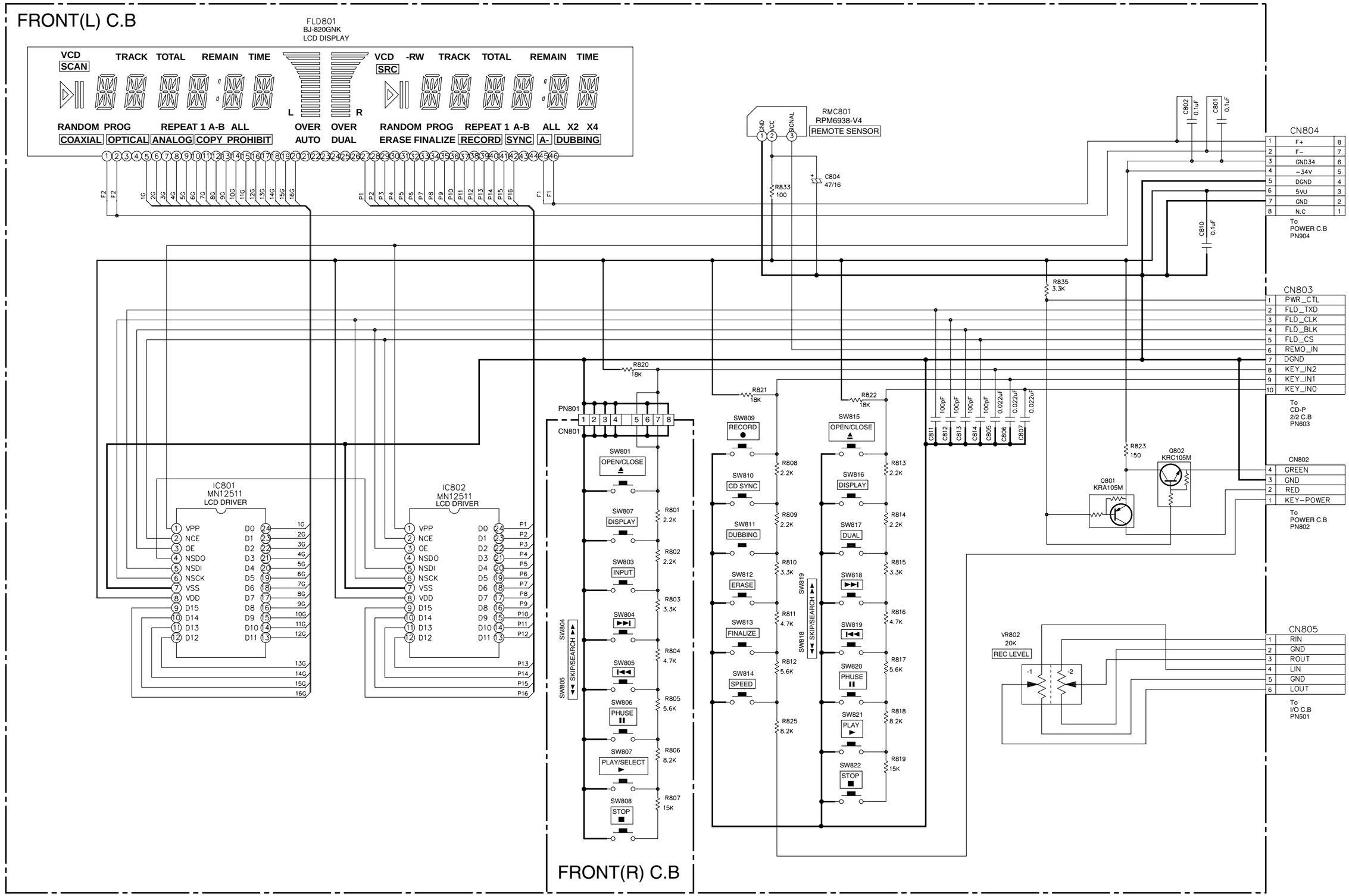
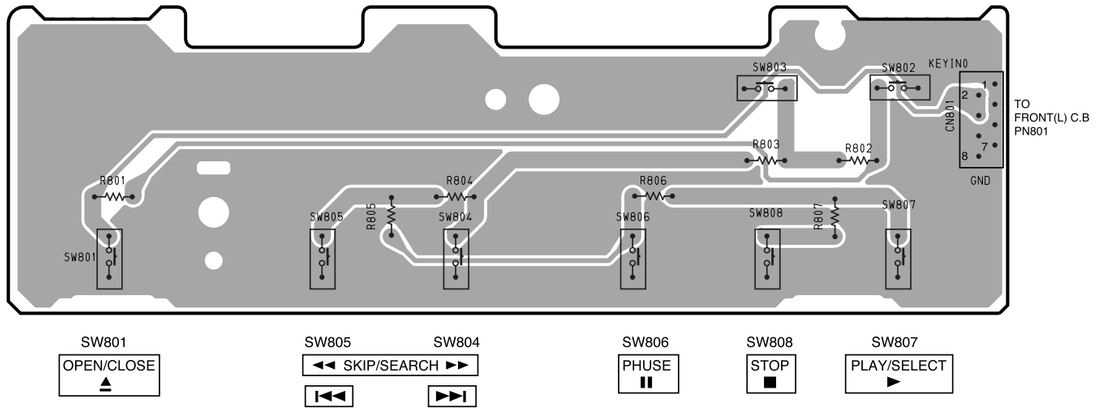
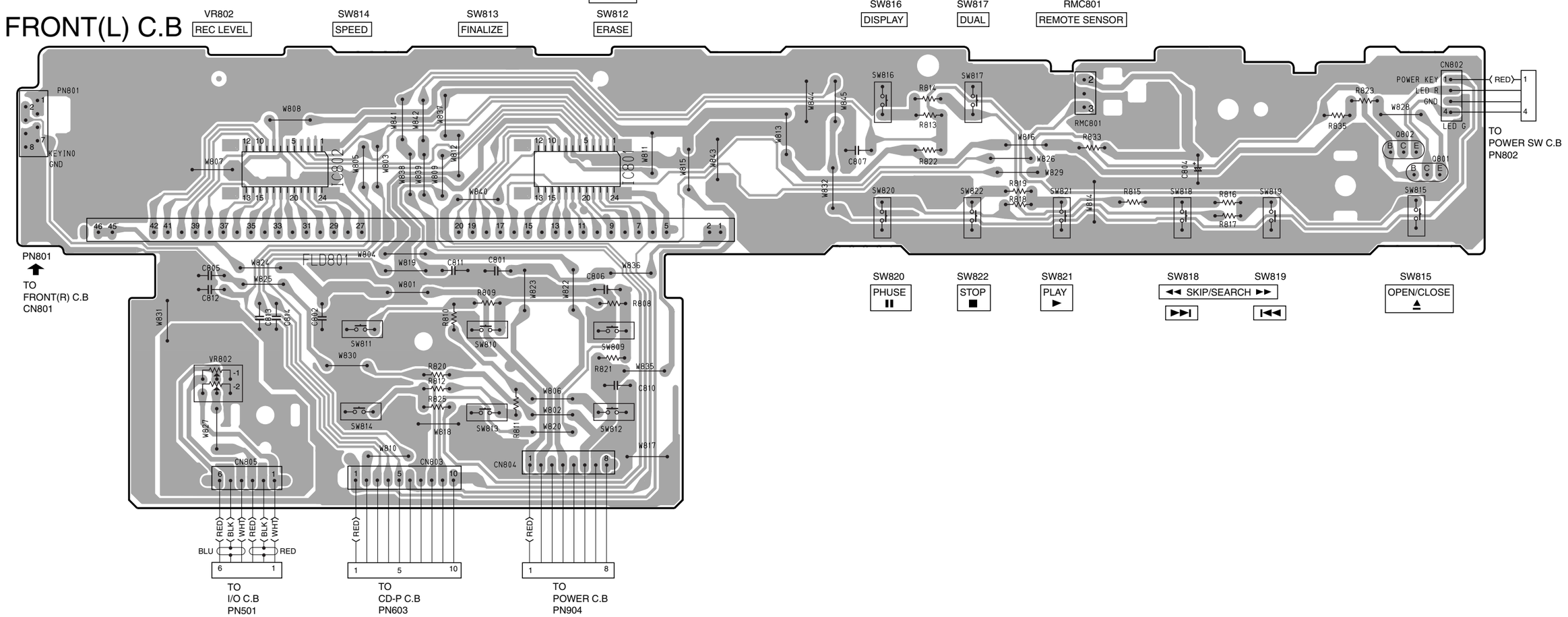
W967
W968
W969
W970
W971
W972
W973
W974

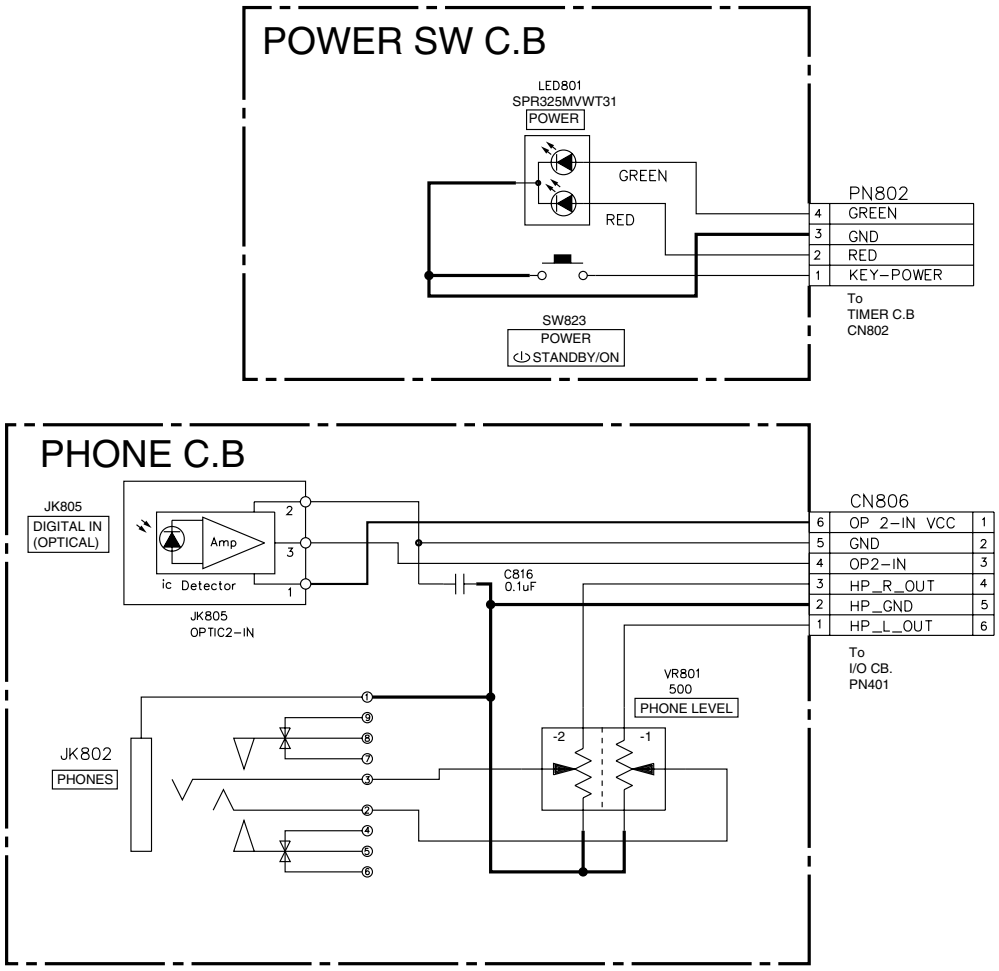

FRONT(L) C.B
FLD801
BJ-820GNK
LCD DISPLAY
VCD SCAN
TRACK TOTAL REMAIN TIME
L R
VCD -RW SRC
TRACK TOTAL REMAIN TIME
RANDOM PROG REPEAT 1 A-B ALL
COAXIAL OPTICAL ANALOG COPY PROHIBIT
OVER AUTO
OVER DUAL
RANDOM PROG REPEAT 1 A-B ALL X2 X4
ERASE FINALIZE RECORD SYNC A- DUBBING
RMC801
RPM6938-V4
REMOTE SENSOR
GND VCC SIGNAL
R833 100
C804 47/16
C802 0.1uF
C801 0.1uF
C810 0.1uF
CN804
F+ F- GND34 -34V DGND 5VU GND N.C
To POWER C.B PN904
R835 3.3K
CN803
PWR_CTL FLD_TXD FLD_CLK FLD_BLK FLD_CS REMO_IN DGND KEY_IN2 KEY_IN1 KEY_IN0
To CD-P 2/2 C.B PN603
R820 18K
R821 18K
R822 18K
PN801
CN801
SW809 RECORD
SW815 OPEN/CLOSE
C811 100pF
C812 100pF
C813 100pF
C814 0.022uF
C805 0.022uF
C806 0.022uF
C807 0.022uF
R823 150
Q802 KRC105M
Q801 KRA105M
CN802
GREEN GND RED KEY-POWER
To POWER C.B PN802
SW801 OPEN/CLOSE
SW810 CD SYNC
SW811 DUBBING
SW812 ERASE
SW813 FINALIZE
SW814 SPEED
SW816 DISPLAY
SW817 DUAL
SW818 SKIP/SEARCH
SW819 SKIP/SEARCH
SW820 PHUSE
SW821 PLAY
SW822 STOP
R808 2.2K
R809 2.2K
R810 3.3K
R811 4.7K
R812 5.6K
R825 8.2K
R813 2.2K
R814 2.2K
R815 3.3K
R816 4.7K
R817 5.6K
R818 8.2K
R819 15K
IC801
MN12511
LCD DRIVER
IC802
MN12511
LCD DRIVER
VPP NCE OE NSDO NSDI NSCK VSS VDD D15 D14 D13 D12
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11
1G 2G 3G 4G 5G 6G 7G 8G 9G 10G 11G 12G 13G 14G 15G 16G
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16
SW801 OPEN/CLOSE
SW807 DISPLAY
SW803 INPUT
SW804 SKIP/SEARCH
SW805 SKIP/SEARCH
SW806 PHUSE
SW807 PLAY/SELECT
SW808 STOP
R801 2.2K
R802 2.2K
R803 3.3K
R804 4.7K
R805 5.6K
R806 8.2K
R807 15K
FRONT(R) C.B
VR802 20K
REC LEVEL
-1 -2
CN805
RIN GND ROUT LIN GND LOUT
To I/O C.B PN501

FRONT(R) C.B

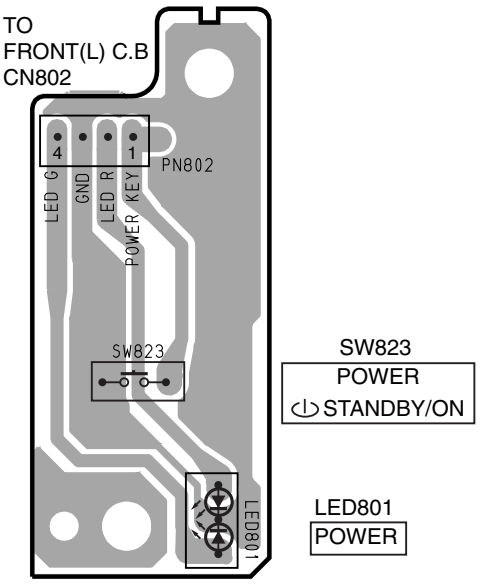


FRONT(L) C.B

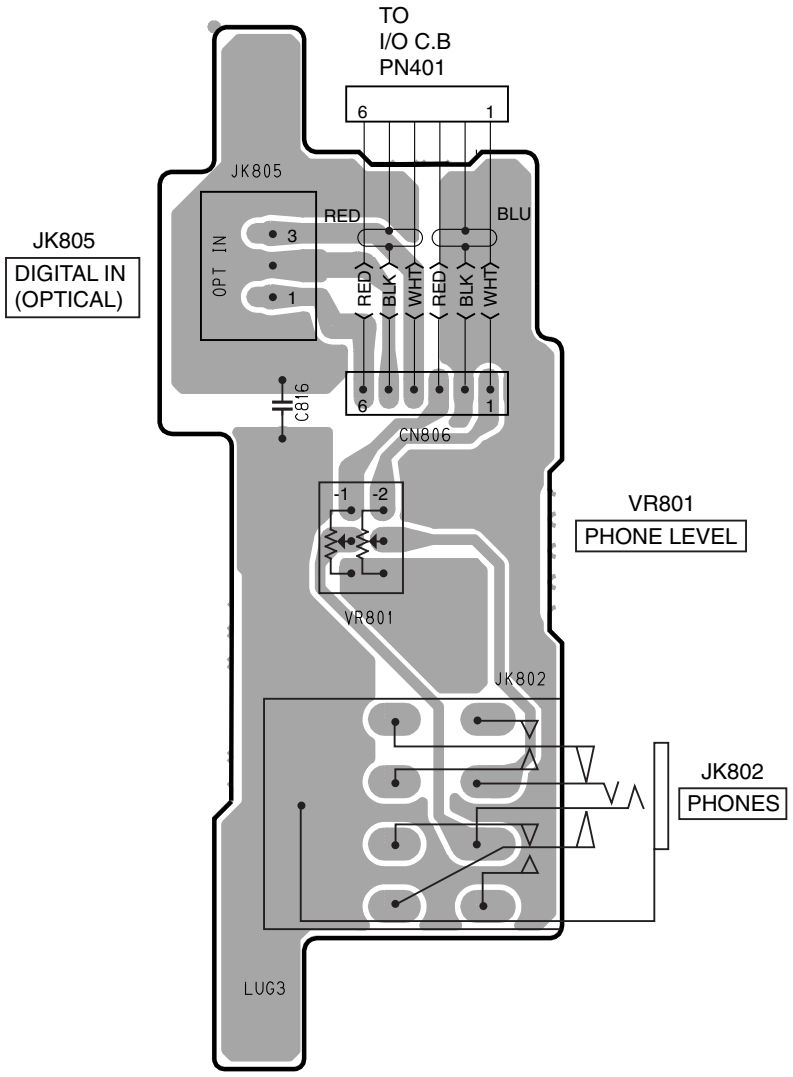



POWER SW C.B
LED801
SPR325MVWT31
POWER
GREEN
RED
PN802
4 GREEN
3 GND
2 RED
1 KEY-POWER
To
TIMER C.B
CN802
SW823
POWER
STANDBY/ON
PHONE C.B
JK805
DIGITAL IN
(OPTICAL)
Amp
ic Detector
JK805
OPTIC2-IN
C816
0.1uF
CN806
6 OP_2-IN_VCC 1
5 GND 2
4 OP2-IN 3
3 HP_R_OUT 4
2 HP_GND 5
1 HP_L_OUT 6
To
I/O CB.
PN401
VR801
500
PHONE LEVEL
-2
-1
JK802
PHONES

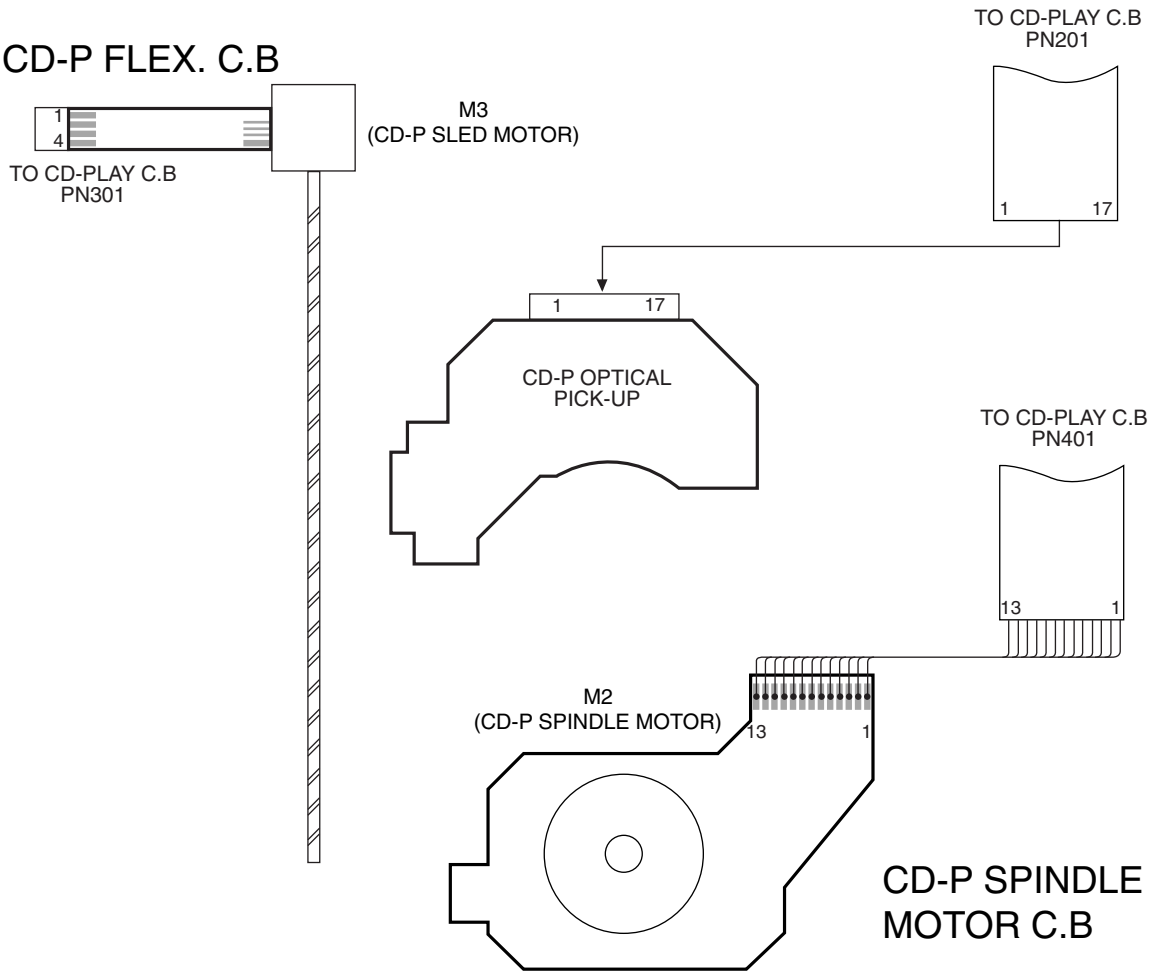
POWER SW C.B



PHONE C.B

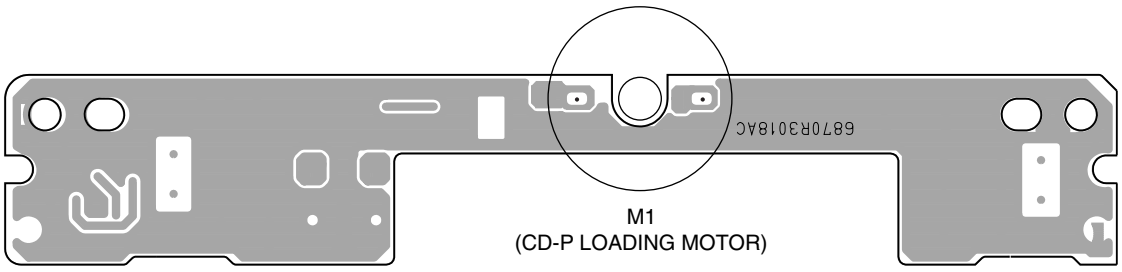


CD-P FLEX. C.B

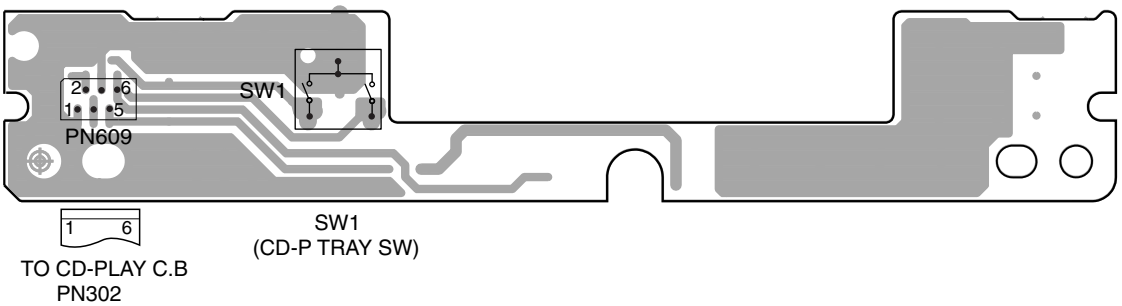


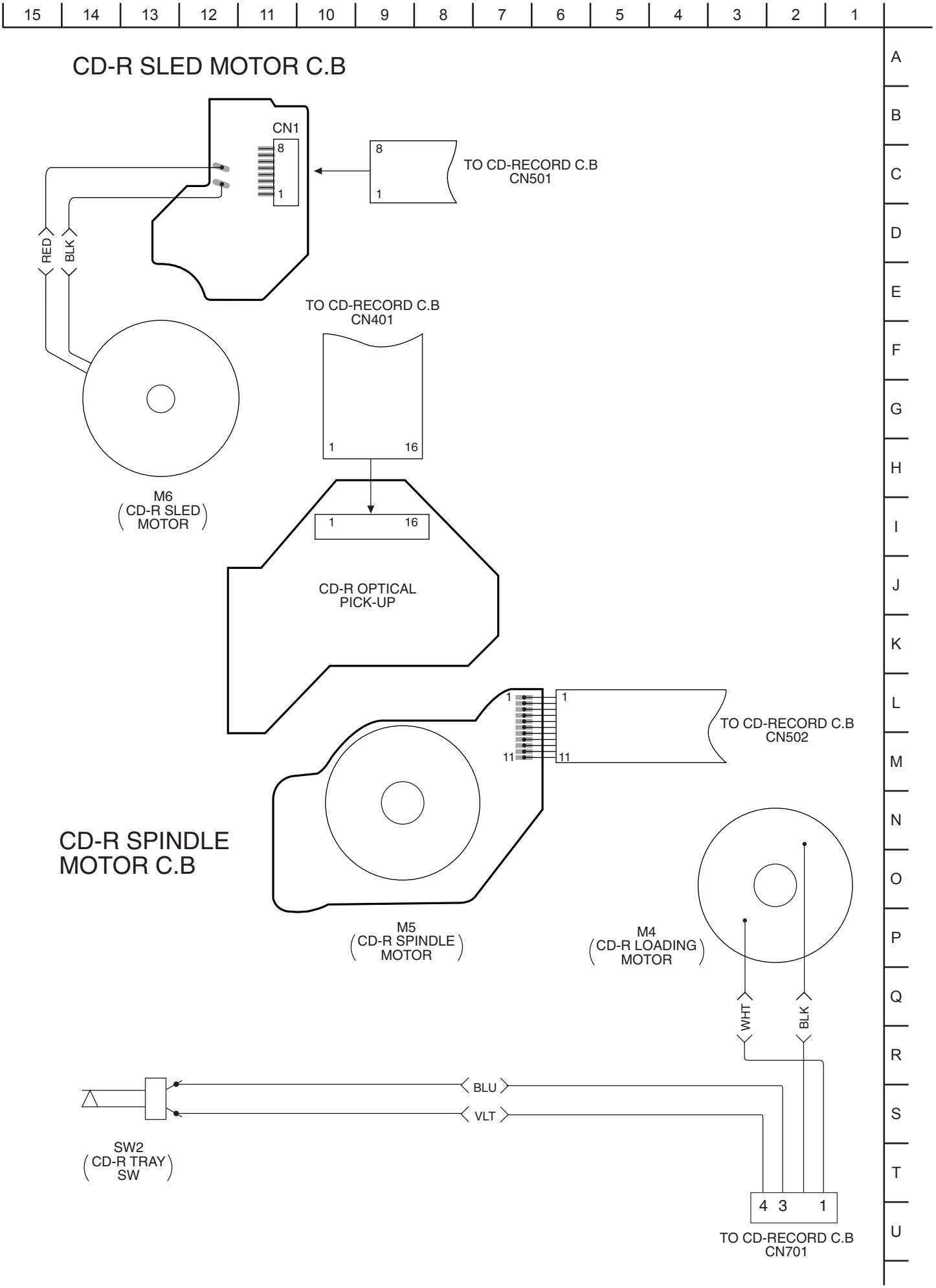
CD-P SPINDLE MOTOR C.B

CD-P LOADING MOTOR C.B -SIDE B-



CD-P LOADING MOTOR C.B -SIDE A-




15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
A B C D E F G H I J K L M N O P Q R S T U
CD-R SLED MOTOR C.B
CN1
8
1
8
1
TO CD-RECORD C.B
CN501
RED
BLK
TO CD-RECORD C.B
CN401
1
16
1
16
M6
(CD-R SLED MOTOR)
CD-R OPTICAL PICK-UP
1
1
11
11
TO CD-RECORD C.B
CN502
CD-R SPINDLE MOTOR C.B
M5
(CD-R SPINDLE MOTOR)
M4
(CD-R LOADING MOTOR)
WHT
BLK
BLU
VLT
SW2
(CD-R TRAY SW)
4 3 1
TO CD-RECORD C.B
CN701

VOLTAGE CHART -1/4

POWER C.B

MODE / PIN NO.	REC
IC901	
1	17
2	-10
3	-10
4	-9
5	-7
IC902	
1	5
2	3.7
3	PULSE
4	PULSE
IC905	
1	13
2	12
3	0
4	4
IC906	
1	0
2	-15
3	-15
IC907	
1	15
2	0
3	12

	Emitter	Collector	Base
	PB	PB	PB
Q901	0	0.1	0.75
Q902	5	5	4
Q904	1.2	-24	0
Q907	5	5	4
Q908	0	0.1	0.75
Q910	-28	-28	-27
Q911	-28	-28	-27

CD-P C.B

MODE / PIN NO.	REC	PB
IC501		
1	3	3
2	4.5	3.8
3	5	4.3
4	4.5	4.5
5	4.3	4.3
6	5	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.5	2.5
13	4.7	4.7
14	1	1
15	0.26	0.26
16	4.8	4.8
17	4.8	4.8
18	0	0
19	5	5
20	5	4.8
21	2.5	2.5
22	0	0
23	1.8	1.8
24	0	0
25	3.9	3.9
26	5	4.6
27	9	9
28	5	5
29	5	5
30	9	9
31	5	5
32	0	0
33	5	5
34	0	0
35	5	5
36	0	5
37	3.4	0
38	0	5
39	5	5
40	3.8	3.8
41	3.9	3.9
42	0	0
43	5	5
44	0	0
45	0	0
46	5	5
47	5	5
48	5	5
49	4.7	4.7
50	4.7	4.7

MODE / PIN NO.	REC	PB
51	4.8	4.8
52	5	5
53	5	5
54	5	5
55	0	0
56	0	0
57	0	0
58	4.5	4.5
59	0	5
60	0	0
61	0	0
62	5	5
63	5	5
64	15	5
65	0	0
66	2.5	2.5
67	2.4	2.4
68	5	5
69	0	0
70	0	0
71	0	0
72	0	0
73	5	5
74	5	5
75	5	5
76	5	5
77	4	4
78	5	5
79	5	5
80	5	5
81	0.2	2
82	0.7	2.2
83	1.5	1.8
84	0.8	P
85	1.7	0.8
86	0	0
87	0.8	0.4
88	5	4.8
89	0	0
90	0.2	3.8
91	0	4.8
92	0	0
93	0	0
94	0	0
95	1.6	2.6
96	0	0
97	0	0
98	0	5
99	0	0
100	0	0

MODE / PIN NO.	REC	PB
IC201		
1	0	0
2	2	2
3	2	2
4	2	2
5	0.4	0.4
6	0.38	0.3
7	0.38	0.31
8	2.66	0.31
9	1.77	1.77
10	1.77	1.77
11	2.66	2.66
12	0	0
13	2	2
14	1	1
15	2	2
16	2	2
17	4	4
18	0	0
19	0	0
20	0	0
21	0	0
22	4	4
23	0	0
24	4	4
25	0	0
26	2	2
27	2	2
28	3.5	3.5
29	2	2
30	3.5	3.5
31	2	2
32	3.5	3.5
33	0	0
34	4	4
35	4	4
36	0	0
37	0	0
38	0	0
39	4	4
40	2	2
41	4	4
42	2	2
43	4	4
44	0	0
45	4	4
46	3.5	3.5
47	0	0
48	0	0
49	0	0
50	0	0

MODE / PIN NO.	REC	PB
51	5	5
52	2	2
53	0	0
54	0	0
55	0	0
56	0	0
57	2.6	2.6
58	2	2
59	2	2
60	4	4
61	4	4
62	2	2
63	0	0
64	2	2
65	0	0
66	0	0
67	3.3	3.3
68	9	9
69	5	5
70	0	0
71	5	5
72	0	0
73	0	0
74	4	4
75	4	4
76	4	4
77	0	0
78	0	0
79	0	0
80	2	2
81	4	4
82	4	4
83	2	2
84	2	2
85	0	0
86	0	0
87	2	2
88	2	2
89	0	0
90	0	0
91	0	0
92	0	0
93	4	4
94	4	4
95	9	9
96	5	5
97	3.3	3.3
98	9	9
99	5	5
100	5	5
101	0	0

MODE / PIN NO.	REC	PB
102	0	0
103	0	0
104	0	0
105	4	4
106	0	0
107	0.3	0.3
108	0	0
109	0	0
110	0	0
111	2	2
112	2	2
113	2	2
114	1.2	1.2
115	4	4
116	4	4
117	2.2	2.2
118	0.3	0.3
119	4	4
120	4	4
121	0	0
122	0	0
123	0	0
124	0	0
125	0	0
126	0	0
127	0	0
128	0	0
129	2.6	2.6
130	4	4
131	4	4
132	0	0
133	0	0
134	0.3	0.3
135	0	0
136	0	0
137	4	4
138	1	1
139	0	0
140	2.2	2.2
141	2.4	2.4
142	2.2	2.2
143	2	2
144	0	0
IC301		
1	2	2
2	2.3	2.3
3	2	2
4	12	12
5	5	5
6	0	0
7	0	0

MODE / PIN NO.	REC	PB
8	2	2
9	10	10
10	0	0
11	0	0
12	9	9
13	9	9
14	1	1
15	1	1
16	1.8	1.8
17	1.8	1.8
18	2	2
19	2	2
20	2	2
21	0	0
22	2	2
23	2	2
24	0	0
25	0	0
26	5	5
27	2	2
28	2	2
29	0	0
30	2	2
31	2.5	2.5
32	2.5	2.5
33	0	0
34	2.5	2.5
35	2.5	2.5
36	2	2
37	2	2
38	5	5
39	12	12
40	2	2
41	12	12
42	1	1
IC401		
1	0	0
2	0.5	0.5
3	0	0
4	2	2
5	2	2
6	0.9	0.9
7	0	0
8	0	0
9	0	0
10	0	0
11	5	5
12	0	0
13	2.5	2.5
14	0.5	0.5
15	0.9	0.9

MODE / PIN NO.	REC	PB
16	3	3
17	3	3
18	3	3
19	3	3
20	3	3
21	3	3
22	5	5
23	12	12
24	0	0
25	12	12
26	12	12
27	0.5	0.5
28	0.5	0.5
IC101		
1	3	3
2	0.16	0.16
3	2	2
4	2	2
5	0	0
6	2	2
7	2	2
8	2	2
9	2	2
10	2	2
11	2	2
12	0	0
13	4	4
14	2	2
15	2	2
16	2	2
17	2	2
18	2	2
19	2	2
20	2.2	2.2
21	2	2
22	4	4
23	2	2
24	1.6	1.6
25	1.7	1.7
26	2.6	2.6
27	2	2
28	2.4	2.4
29	2	2
30	2	2
IC601		
1	4.4	4.4
2	5.1	5.1
3	0	0
4	3.9	3.9
5	0	0
IC602		

MODE / PIN NO.	REC	PB
1	0.7	0.7
2	4.8	4.8
3	0.8	0.8
4	2.5	2.5
5	2.6	2.6
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0.3	0.3
13	0.3	0.3
14	0.3	0.3
15	5	5
16	5	5
IC402		
1	1.8	1.8
2	2.5	2.5
3	2.5	2.5
4	0	0
5	3.1	3.1
6	2.9	2.9
7	5	5
8	5	5
IC403		
1	2.3	2.3
2	2	2
3	2	2
4	0	0
5	2	2
6	2	2
7	1.7	1.7
8	5	5
IC302		
1	2.2	2.2
2	0	0
3	0	0
4	0	0
5	0	0
6	1.9	1.9
7	2.2	2.2
8	5	5
IC502		
1	5	5
2	3.7	3.7
3	0	0

	Emitter	Collector	Base
	PB	PB	PB
Q101	3.5	1.8	2.8
Q102	0	0	4.1
Q104	0	0	0
Q105	0	51 mV	0
Q401	2	1.4	0
Q403	2	2	2.5

VOLTAGE CHART -2/4

CD-R C.B

MODE / PIN NO.	REC	PB
IC201		
1	0	0
2	2	3.8
3	2	4.3
4	0	0
5	0	0
6	0	0
7	2	2
8	1.5	1.5
9	4.8	4.8
10	3.3	3.3
11	0	0
12	3.3	3.3
13	0	0
14	3	3
15	3	3
16	3	3
17	3	3
18	3	3
19	3	3
20	3	4.8
21	3	3
22	3.3	3.3
23	0	0
24	3	3
25	3	3
26	3	4.6
27	3	3
28	3	3
29	3	3
30	3.3	3.3
31	3.3	3.3
32	3	3
33	3	3
34	3.3	3.3
35	0	0
36	3.3	5
37	3.3	0
38	3.3	5
39	3.3	3.3
40	3.3	3.3
41	3.3	3.3
42	3.3	3.3
43	3.3	3.3
44	3.3	3.3
45	3.3	3.3
46	3.3	3.3
47	0	0
48	0	0
49	3.3	3.3
50	3.3	3.3

MODE / PIN NO.	REC	PB
51	4.8	4.8
52	4.8	4.8
53	3.3	3.3
54	4	4
55	4	4
56	0	0
57	0	0
58	0	0
59	3.3	5
60	0	0
61	3.3	3.3
62	2.8	2.8
63	3.3	3.3
64	0	5
65	0.3	0.3
66	2.8	2.8
67	4.8	4.8
68	4.8	4.8
69	2.8	2.8
70	0	0
71	0	0
72	3.3	3.3
73	0	0
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	3.3	2
82	0	2.2
83	0	1.8
84	0	PULSE
85	0	0.8
86	0	0
87	0	0.4
88	0	4.8
89	0	0
90	3.3	3.8
91	0	4.8
92	4.8	4.8
93	4.8	4.8
94	3	3
95	2.7	2.6
96	2.7	2.7
97	2.6	2.6
98	0	5
99	2.7	2.7
100	0	0
101	2.7	2.7

MODE / PIN NO.	REC	PB
102	0	0
103	3	3
104	4.8	4.8
105	4.8	4.8
106	4.8	4.8
107	4.8	4.8
108	3.3	0.3
109	0	0.31
110	3	0.31
111	3.3	3.3
112	3.3	3.3
113	3.3	3.3
114	0	0
115	0	0
116	0	0
117	0	0
118	0	0
119	0	0
120	0	0
121	0	0
122	1.4	1.4
123	2.5	2.5
124	2	2
125	2	2
126	2.4	2.4
127	2.4	2.4
128	2.3	2.3
129	2.4	2.4
130	0.3	0.3
131	3.3	3.3
132	2.4	2.4
133	3.3	3.3
134	3.3	3.3
135	0	0
136	0	0
137	9	9
138	3.3	3.3
139	3.3	3.3
140	3.3	3.3
141	1.5	1.5
142	3.3	3.3
143	1.6	1.6
144	1.6	1.6
145	1.6	1.6
146	1.6	1.6
147	0	0
148	2.3	2.3
149	1.1	1.1
150	0	0
151	1.4	1.4
152	3.3	3.3

MODE / PIN NO.	REC	PB
153	3.3	3.3
154	0	0
155	0	0
156	0	0
157	3.3	3.3
158	3.3	3.3
159	2	2
160	2	2
161	2	2
162	2	2
163	2	2
164	2	2
165	0	0
166	0	0
167	3.3	3.3
168	3.1	3.1
169	0	0
170	0	0
171	0	0
172	0	0
173	3.3	3.3
174	0	0
175	0	0
176	3.3	3.3
177	1.7	1.7
178	0	0
179	0	0
180	0	0
181	0	0
182	0	0
183	3.3	3.3
184	3.3	3.3
185	0	0
186	0	0
187	0	0
188	0	0
189	3.3	3.3
190	0	0
191	0	0
192	9	9
193	9	9
194	2	2
195	0	0
196	2	2
197	2	2
198	2	2
199	3.3	3.3
200	0	0
201	2.3	2.3
202	1.3	1.3
203	2	2

MODE / PIN NO.	REC	PB
204	2	2
205	4	4
206	3.3	3.3
207	2	2
208	2	2
IC601		
1	2.2	2.2
2	0	1.3
3	0	1.3
4	0	0
5	4.4	0
6	4.4	1.7
7	4.4	1.7
8	4.4	1.7
9	4.4	1.9
10	2.2	1.9
11	0	0
12	0	0
13	0	4.8
14	0	4.8
15	4.8	4.8
16	3.3	3.3
17	0	0
18	4.6	1.1
19	4.8	0
20	4.8	4.8
21	4.6	3.8
22	3.3	3.3
23	3.3	3.3
24	0	0
25	0	0
26	4.8	4.8
27	0	3.3
28	4.8	4.8
29	3.3	0.8
30	3.3	2.7
31	3.3	0
32	4.8	4.8
33	4.8	4.8
34	4.8	4.8
35	4.8	4.8
36	4.8	4.8
37	4.8	4.8
38	2	2
39	0.1	0.1
40	0	1.4
41	0	0.14
42	0	1
43	1.7	1.7
44	1.6	1.6
IC502		

MODE / PIN NO.	REC	PB
1	0	0
2	2.5	2.5
3	2.5	2.5
4	1.6	1.6
5	2	2
6	2	2
7	2	2
8	2.4	2.4
9	2.5	2.5
10	2.4	2.4
11	2	2
12	2	2
13	2	2
14	4.6	4.6
15	2	2
16	2	2
17	2	2
18	0	0
19	2	2
20	2	2
21	4.8	4.8
22	2.2	2.2
23	2.8	2.8
24	2.2	2.2
25	4.8	4.8
26	2	2
27	2	2
28	2	2
IC304		
1	2	2
2	2.5	2.5
3	0	2
4	1.5	1.5
5	1.6	1.6
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.5	2.5
13	2	2
14	2.5	2.5
15	2.5	2.5
16	4.8	4.8
IC102		
1	3.3	3.3
2	4.8	4.8
3	0	0
4	3.3	3.3
5	0	0

MODE / PIN NO.	REC	PB
IC509		
1	2	2
2	2	2
3	2	2
4	0	0
5	2	2
6	2	2
7	2	2
8	4.8	4.8
IC508		
1	2	2
2	2	2
3	2	2
4	2	2
5	2	2
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	2	2
13	2	2
14	2	2
15	2	2
16	4.8	4.8
IC702		
1	0	0
2	4.8	0
3	0	0
4	0.6	0.6
5	0	0
6	0	0
7	0	0
8	4.8	4.8
IC514		
1	2	2
2	2	2
3	2	2
4	0	0
5	2.5	2.5
6	2.5	2.5
7	2.5	2.5
8	4.8	4.8
IC406		
1	3	3
2	3	3
3	3	3
4	6	6
5	2.5	2.5
6	2.5	2.5

MODE / PIN NO.	REC	PB
7	2.5	2.5
8	4.8	4.8
IC701		
1	3	3
2	4.8	4.8
3	4.8	4.8
4	4.8	4.8
5	4.8	4.8
6	0	0
7	0	4.8
8	0	0
9	0	0
10	0	0
11	0	0
12	1	1
13	4.8	4.8
14	2.5	2.5
15	0.6	0.6
16	4.8	4.8
17	3.3	3.3
18	0	0
19	4.8	0
20	0	0
21	0	0
22	0	0
23	4.8	4.8
24	1.4	0
25	0	0
26	4.8	4.8
27	3	3
28	2.7	2.3
29	2.7	2.3
30	2.7	2.2
31	0.2	PULSE
32	2.7	PULSE
33	2.7	PULSE
34	0.7	0.7
35	4.8	4.8
36	0.3	0.3
37	2.4	2.4
38	2.4	2.4
39	2.4	2.4
40	2.4	2.4
41	2	2
42	2	4
43	2.5	3.4
44	0	0
45	1.4	1.2
46	4.8	4.8
47	0.2	0.2
48	0	0

MODE / PIN NO.	REC	PB
49	0	0
50	4.8	4.8
51	4.8	4.8
52	4.8	4.8
53	0	0
54	0	2
55	0	4.8
56	0	0
57	0	0
58	0	3.2
59	0	0
60	4.8	4.8
61	0	0.5
62	4.8	4.8
63	3.3	3.3
64	0	0
65	0	0
66	0	0
67	2.4	2.4
68	4.8	4.8
69	4.8	4.8
70	0	4.8
71	4.8	4.8
72	0	4.8
73	4.8	4.8
74	0	0
75	4.8	4.8
76	4.8	4.8
77	0	4
78	0	1
79	0	1
80	0.6	0.4
81	2	2
82	0	2
83	0.4	0.4
84	2	2
85	2	2
86	0	0
87	0	0
88	3.3	3.3
89	3.3	3.3
90	2.4	2.4
91	4.8	4.8
92	0	0
93	0	4.8
94	0	0
95	2.2	2.2
96	0	0
97	0	0
98	4.8	4.8
99	0	0

MODE / PIN NO.	REC	PB
100	0	0
IC403		
1	2.7	2.7
2	2.7	2.7
3	2.7	2.7
4	4.8	4.8
5	2.3	2.3
6	2.3	2.3
7	3.3	2.7
8	2	2
9	2	2
10	2	2
11	0	0
12	2	2
13	2	2
14	2.3	2.3
IC411		
1	2	2
2	2	2
3	2	2
4	0	0
5	1.3	1.3
6	1.3	1.3
7	1.3	1.3
8	4.8	4.8
IC405		
1	3	2.5
2	0.6	1
3	3	1
4	0.6	0.6
5	0.6	0.6
6	0	0
7	0	0
8	0	0
9	0	4.8
10	0	0
11	0.8	2
12	2	2.4
13	2	1
14	2	2
15	0.6	1
16	4.8	4.8
IC413		
1	2.7	2.7
2	2.2	2.2
3	2.2	2.2
4	0	0
5	2	2
6	2	2
7	2	2
8	4.8	4.8

MODE / PIN NO.	REC	PB
IC401		
1	2.5	2.5
2	2.5	2.5
3	2	2
4	0.8	2
5	0	0.4
6	0	0
7	0.13	0.13
8	0.74	1.3
9	0	0.45
10	0	1.3
11	3	3
12	0.7	0
13	0.7	0
14	0.7	0
15	4.8	4.8
16	2.8	2.8
17	2.8	2.8
18	0	0
19	0	0
20	0.74	0.74
21	0	0
22	3	3
23	3	2.5
24	3	2.5
25	2.5	2.5
26	2.5	2.5
27	2	2
28	2	2
29	2	2
30	1.1	1.1
31	0	0
32	2	2
33	2.5	2.5
34	4.8	4.8
35	2.3	2.3
36	1.4	1.4
37	4	4
38	0	1
39	3.3	0
40	3.3	1.3
41	3.3	1.3
42	3.3	1.3
43	0	0.1
44	0	0
45	4.8	4.8
46	4.8	4.8
47	0	0
48	4.8	0
49	0	4.8
50	0	4.8

MODE / PIN NO.	REC	PB
51	4.8	0
52	0	0
53	0	0
54	0	0
55	9	9
56	2	2
57	2	2
58	2	2
59	2.6	2.6
60	1.3	1.3
61	2	2
62	2	2
63	0	0
64	2	2
65	2.7	2.7
66	2	2
67	4.8	4.8
68	2.8	2.8
69	2.2	2.2
70	2.2	2.2
71	2.2	2.2
72	1.9	1.9
73	3	3
74	2	2
75	2.2	2.2
76	2	2
77	2.2	2.2
78	2.1	2.1
79	0.4	0.4
80	4.4	4.4
81	4.4	4.4
82	2.5	2.5
83	3	3
84	2	2
85	2.5	2.5
86	2.2	2.2
87	0	0
88	1.7	1.7
89	4.8	4.8
90	2	2
91	2	2
92	2.5	2.5
93	2.5	2.5
94	2.5	2.5
95	2.5	2.5
96	2.5	2.5
97	2.5	2.5
98	2.5	2.5
99	2.5	2.5
100	2.5	2.5
IC301		

MODE / PIN NO.	REC	PB
1	0	PULSE
2	0	PULSE
3	0	PULSE
4	0	PULSE
5	0	PULSE
6	0	PULSE
7	0	PULSE
8	0	PULSE
9	0	PULSE
10	0	PULSE
11	0	0
12	4.8	4.8
13	0	0.26
14	0	0.28
15	0	1.4
16	0	1.3
17	0	2.5
18	0	2.7
19	0	2.7
20	0	PULSE
21	0	PULSE
22	0	1.3
23	0	PULSE
24	0	PULSE
25	0	1.3
26	0	PULSE
27	0	PULSE
28	4.8	4.8
29	0	0
30	4.8	4.8
31	0	0.36
32	0	0
33	4.6	PULSE
34	4.6	PULSE
35	4.6	PULSE
36	0	PULSE
37	0	PULSE
38	0	PULSE
39	4.5	PULSE
40	0	0
41	2	2
42	2	2
43	0	0
44	2	2
45	2	2
46	2	2
47	4.8	4.8
48	1.3	1.3
49	1.3	1.3
50	0	0
51	0	0

VOLTAGE CHART -3/4

MODE / PIN NO.	REC	PB
52	0	0
53	4.8	PULSE
54	0	PULSE
55	0	0
56	0	0
57	0	0
58	4.8	4.8
59	0	0
60	4.9	0
61	3.3	3.3
62	1.8	1.8
63	0	0
64	4.8	4.8
65	1.3	1.3
66	0	4.8
67	4.5	4.5
68	4.5	4.5
69	0	0
70	0	0
71	0	0
72	4.8	4.8
73	4.8	4.8
74	1.8	1.8
75	0	PULSE
76	0	PULSE
77	0	PULSE
78	0	PULSE
79	0	PULSE
80	0	PULSE
IC510		
1	0	0
2	11	11
3	0	0
4	11	11
5	0	0
6	0	0
7	11	11
8	0	0
9	1.8	1.8
10	1.8	1.8
11	1.8	1.8
12	1.8	1.8
13	1.8	1.8
14	1.8	1.8
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	2.1	2.1
20	0	0
21	2	2

MODE / PIN NO.	REC	PB
22	2	2
23	4.8	4.8
24	2.3	2.3
25	4.8	4.8
26	1.9	1.9
27	12	12
28	12	12
IC501		
1	2	2
2	2	2
3	2	2
4	2	2
5	2	2
6	2	2
7	2	2
8	0	0
9	4.8	4.8
10	8	8
11	4	4
12	4	4
13	4	4
14	4	4
15	3.7	3.7
16	3.3	0.9
17	3.3	3.3
18	3.7	3.7
19	8	8
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	2	2
28	12	12
IC203		
1	3.3	3.3
2	3.3	3.3
3	3.3	3.3
4	3.3	3.3
5	3.3	3.3
6	3.3	3.3
7	3	3
8	3	3
9	3	3
10	3	3
11	0	0
12	0	0
13	0	0
14	3.3	3.3

MODE / PIN NO.	REC	PB
15	3.3	3.3
16	0	0
17	0	0
18	0	0
19	0	0
20	3.3	3.3
21	3.3	3.3
22	3.3	3.3
23	0	0
24	0	0
25	3.3	3.3
26	3.3	3.3
27	3.3	3.3
28	3.3	3.3
29	3.3	3.3
30	3.3	3.3
31	3.3	3.3
32	3.3	3.3
33	0	0
34	0	0
35	3	3
36	3	3
37	3	3
38	3	3
39	0	0
40	3	3
41	3	3
42	3	3
43	3	3
44	0	0
IC306		
1	0	3.8
2	0	4.2
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	1.3	1.3
12	4.3	4.3
13	0	0
14	0	0
15	0	0
16	0	0
17	4.3	4.3
18	0	2.3
19	0	3.7
20	0	1.5

MODE / PIN NO.	REC	PB
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0
26	4.8	4.8
27	0	0
28	4.8	4.8
IC302		
1	0	0
2	0	1.3
3	0	2.2
4	0	2.2
5	0	2.2
6	0	2.2
7	0	1.3
8	0	1.3
9	0	0.3
10	0	0.3
11	1.3	9
12	4.3	9
13	0	9
14	0	0
15	0	9
16	0	9
17	4.3	9
18	0	9
19	0	9
20	0	0
21	0	2.2
22	0	0.3
23	0	2.2
24	0	1.3
25	0	2.2
26	4.8	2.2
27	0	4.7
28	4.8	4.8
IC307		
1	2.2	2.2
2	2.4	2.4
3	1.6	1.6
4	1.6	2..3
5	2.4	2.4
6	0	0
7	0	0
8	0	0
9	5	0
10	0	0
11	5	0
12	0.7	0.8
13	0.7	0.8

MODE / PIN NO.	REC	PB
14	0.7	0.8
15	2.4	2.4
16	4.8	4.8
IC409		
1	0	0
2	0	0
3	0.2	0.2
4	2	2
5	2.5	2.5
6	2	2
7	2	2
8	3.4	3.4
9	2	2
10	4	4
11	4.8	4.8
12	0	0
13	1	1
14	0	4.8
15	0	0
16	4.8	0
17	0	0
18	1	1
19	2.3	2.3
20	0	0
IC404		
1	0	0
2	0.6	0.6
3	0.6	0.6
4	0	0
5	1.7	1.7
6	1.9	1.9
7	9	9
8	4.8	4.8
IC412		
1	0.1	0.1
2	0	0
3	0	0
4	0	0
5	0.5	0.5
6	0.5	0.5
7	0	0
8	4.8	4.8
IC512		
1	12	12
2	0	0
3	8	8
IC511		
1	12	12
2	0	0
3	8	8
IC102		

MODE / PIN NO.	REC	PB
1	4.8	4.8
2	4.8	4.8
3	0	0
4	3.9	3.9
5	0	0
IC101		
1	3.3	3.3
2	3.6	3.6
3	0	0
IC414		
1	1.3	1.3
2	1.3	1.3
3	0	0
4	3.3	3.3
5	4.8	4.8
IC407		
1	2.4	2.4
2	2.8	2.8
3	0	0
4	0	0
5	4.8	4.8
IC310		
1	0	0
2	2.2	2.2
3	0	0
4	1.2	1.2
5	4.8	4.8
IC303		
1	0	0
2	2.4	2.4
3	0	0
4	2.4	2.4
5	4.8	4.8
IC509		
1	2.4	2.4
2	1.9	1.9
3	1.9	1.9
4	0	0
5	1.9	1.9
6	1.9	1.9
7	1.9	1.9
8	4.9	4.9

	Emitter		Collector		Base	
	PB	REC	PB	REC	PB	REC
Q401	0	0.01	0.7	0.03	0.04	4.77
Q402	0	0.01	2.7	0.02	0.1	0.01
Q403	0	0.01	0.7	0.02	0.04	4.77
Q404	0	0.01	2.7	0.42	0.01	0.02
Q405	0	0.01	0	0.42	2.7	0.02

I/O C.B

MODE / PIN NO.	REC	PB
IC105		
1	0	0
2	3.3	3.3
3	9	9
4	4	4
5	9	9
6	9	9
7	9	9
8	0	0
9	0	0
10	4	4
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	5	5
18	5	5
19	0	0
20	9	9
21	9	9
22	9	9
23	9	9
24	2.5	2.5
25	2.5	2.5
26	2.5	2.5
27	0	0
28	0	0
IC401		
1	0	0
2	3.3	3.3
3	9	9
4		
5	9	9
6	9	9
7	9	9
8	0	0
9	0	0
10	4	4
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	5	5
18	5	5
19	0	0
20	9	9
21	9	9

MODE / PIN NO.	REC	PB
22	9	9
23	9	9
24	2.4	2.4
25	2.6	2.6
26	2.6	2.6
27	0	0
28	0	0
IC112		
1	2.4	2.4
2	2.4	2.4
3	2.4	2.4
4	5	5
5	0	0
6	2.4	2.4
7	2.4	2.4
8	2.4	2.4
9	5	5
10	0	0
11	0	0
12	5	5
13	0	0
14	0	0
15	4	4
16	4.4	4.4
17	PULSE	PULSE
18	0	0
19	0	0
20	4.4	4.4
21	PULSE	PULSE
22	0	0
23	5	5
24	5	5
IC110		
1	PULSE	PULSE
2	PULSE	PULSE
3	PULSE	PULSE
4	PULSE	PULSE
5	PULSE	PULSE
6	0	0
7	0	0
8	0	0
9	5	5
10	5	5
11	5	5
12	PULSE	PULSE
13	PULSE	PULSE
14	PULSE	PULSE
15	PULSE	PULSE
16	5	5
IC109		
1	PULSE	PULSE

MODE / PIN NO.	REC	PB
2	PULSE	PULSE
3	PULSE	PULSE
4	PULSE	PULSE
5	PULSE	PULSE
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	PULSE	PULSE
13	PULSE	PULSE
14	PULSE	PULSE
15	PULSE	PULSE
16	5	5
IC108		
1	PULSE	PULSE
2	PULSE	PULSE
3	PULSE	PULSE
4	PULSE	PULSE
5	PULSE	PULSE
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	5	5
12	160mV	160mV
13	1.4	1.4
14	1.4	1.4
15	PULSE	PULSE
16	5	5
IC404		
1	PULSE	PULSE
2	PULSE	PULSE
3	PULSE	PULSE
4	-12	-12
5	PULSE	PULSE
6	PULSE	PULSE
7	PULSE	PULSE
8	12	12
IC406		
1	PULSE	PULSE
2	PULSE	PULSE
3	PULSE	PULSE
4	-12	-12
5	PULSE	PULSE
6	PULSE	PULSE
7	PULSE	PULSE
8	12	12
IC104		

MODE / PIN NO.	REC	PB
1	PULSE	PULSE
2	PULSE	PULSE
3	PULSE	PULSE
4	-12	-12
5	PULSE	PULSE
6	PULSE	PULSE
7	PULSE	PULSE
8	12	12
IC102		
1	PULSE	PULSE
2	0	0
3	0	0
4	-12	-12
5	PULSE	PULSE
6	PULSE	PULSE
7	PULSE	PULSE
8	12	12
IC103		
1	PULSE	PULSE
2	0	0
3	0	0
4	-12	-12
5	PULSE	PULSE
6	PULSE	PULSE
7	PULSE	PULSE
8	12	12
IC106		
1	2.6	2.6
2	2.4	2.4
3	2.1	2.1
4	2.6	2.6
5	2.6	2.6
6	2.4	2.4
7	0	0
8	2.3	2.3
9	2.3	2.3
10	4.8	4.8
11	0	0
12	2.3	2.3
13	2.3	2.3
14	5.0	5.0
IC107		
1	0	0
2	4.8	4.8
3	2.3	2.3
4	2.3	2.3
5	2.3	2.3
6	2.4	2.4
7	0	0
8	2.0	2.0
9	2.6	2.6

MODE / PIN NO.	REC	PB
10	2.6	2.6
11	2.1	2.1
12	2.0	2.0
13	2.6	2.6
14	5.0	5.0

VOLTAGE CHART -4/4

	Emitter	Collector	Base
	PB	PB	PB
Q202	3.3	5	4
Q203	2	12	0
Q204	0	0	0.7
Q205	12	12	0
Q206	-12	-12	-1
Q207	0	0	-12
Q208	0	0	-12
Q401	2	5	2.5
Q402	2	5	2.5
Q403	0	0	-12
Q404	0	0	-12
Q405	5	0	5
Q410	2	5	2.5
Q411	2	5	2.5

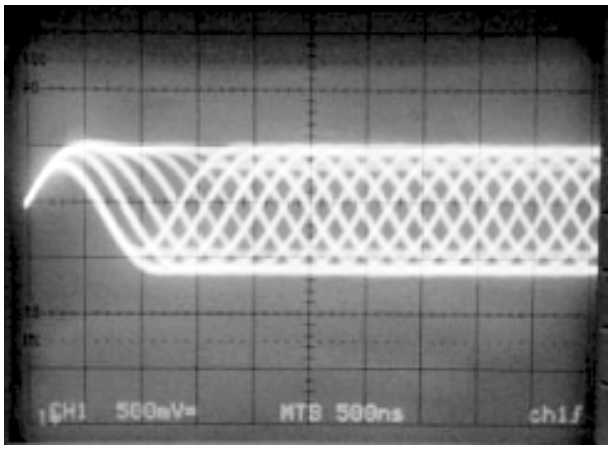
FRONT C.B

MODE / PIN NO.	REC	PB
IC801		
1	-32	-32
2	4.4	4.4
3	4.3	4.3
4	2.5	2.5
5	4.6	4.6
6	4.8	4.8
7	0	0
8	5	5
9	-30	-30
10	-30	-30
11	-30	-30
12	-30	-30
13	-30	-30
14	-30	-30
15	-30	-30
16	-30	-30
17	-30	-30
18	-30	-30
19	-30	-30
20	-30	-30
21	-30	-30
22	-30	-30
23	-30	-30
24	-30	-30
IC802		
1	–	–
2	–	–
3	–	–
4	4.6	4.6
5	2.5	2.5
6	–	–
7	–	–
8	–	–
9	-27	-27
10	-21	-21
11	-16	-16
12	-32	-32
13	-30	-30
14	-32	-32
15	-19	-19
16	-14	-14
17	-14	-14
18	-16	-16
19	-12	-12
20	-14	-14
21	-32	-32
22	-32	-32
23	-32	-32
24	-16	-16

	Emitter	Collector	Base
	PB	PB	PB
Q801	2.3	-1	4
Q802	2.2	2.3	4

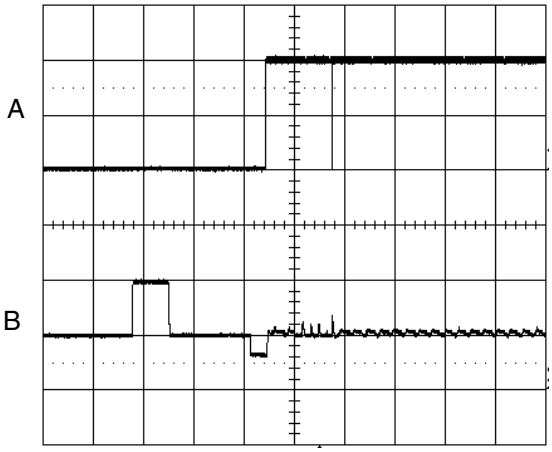
IC101 (RF SIGNAL PROCESSOR)

① IC101 Pin 15 RF AC
500 mV/500 ns
TEST MODE: PLAY

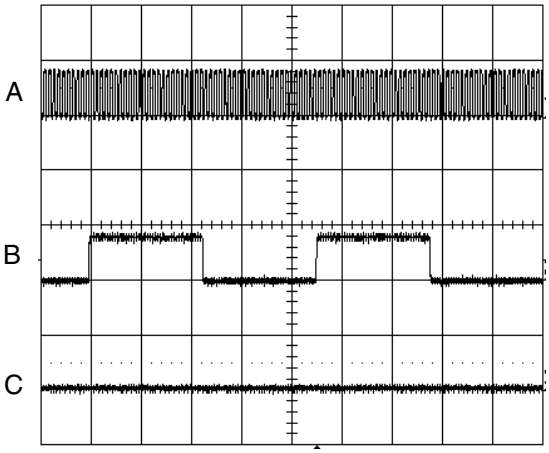


IC201 (DSP + SSP)

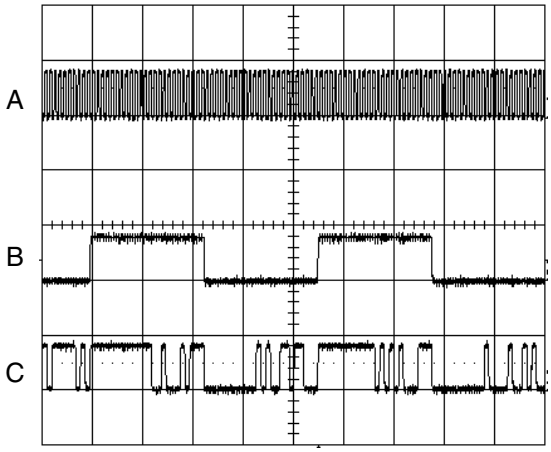
② A: IC201 Pin 19 LOCK
B: IC401 Pin 4 SPIN_CTL
A: 2.0 V/0.5 s, B: 2.0 V/0.5 s
TEST MODE: SPINDLE WAVE



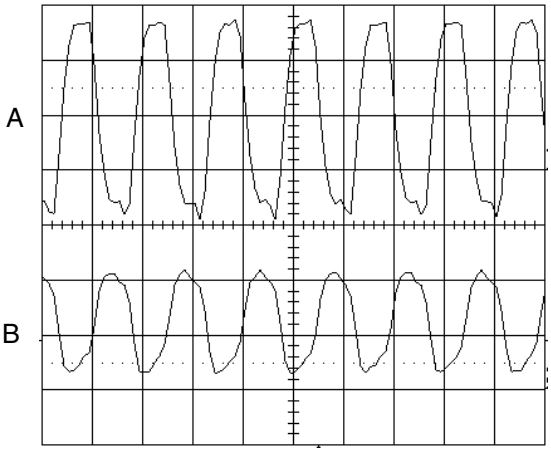
③ A: IC201 Pin 31 P-BITCK
B: IC201 Pin 27 P-LRCK
C: IC201 Pin 29 P-PCMDT
A: 5.0 V/5 µs, B: 5.0 V/5 µs, C: 5.0 V/5 µs
TEST MODE: STOP



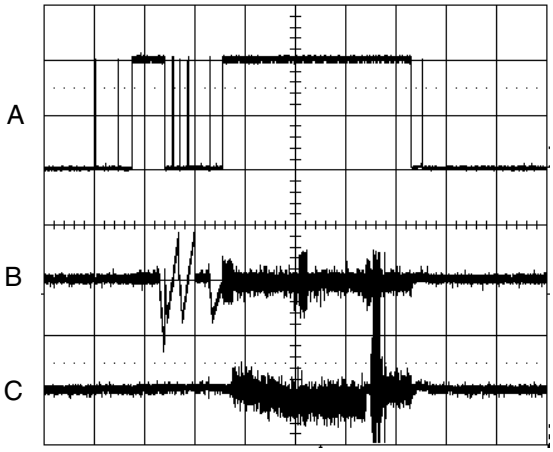
④ A: IC201 Pin 31 P-BITCK
B: IC201 Pin 27 P-LRCK
C: IC201 Pin 29 P-PCMDT
A: 5.0 V/5 µs, B: 5.0 V/5 µs, C: 5.0 V/5 µs
TEST MODE: PLAY



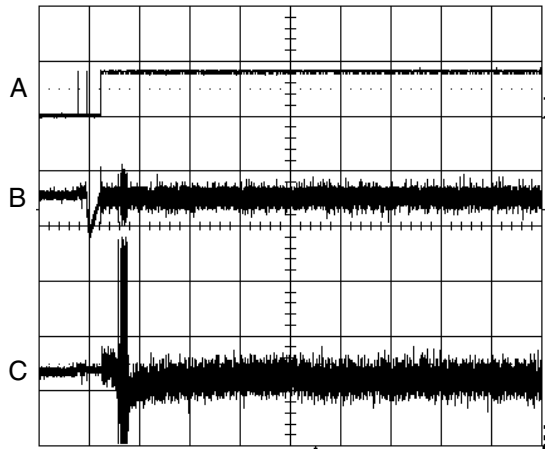
⑤ A: IC201 Pin 84 XTLI
B: IC201 Pin 52 MCKO
A: 2.0 V/20 ns, B: 2.0 V/20 ns
TEST MODE: MAIN CLOCK



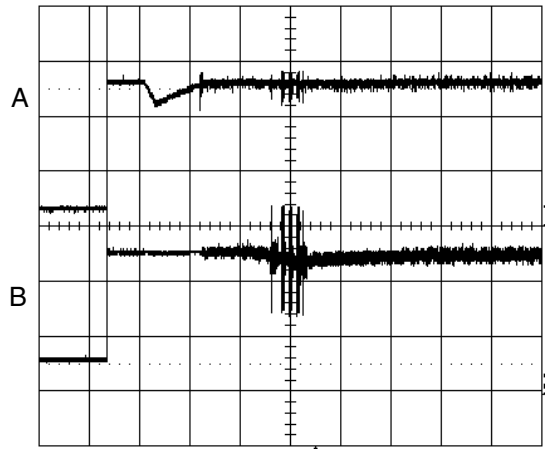
⑥ A: IC201 Pin 105 FOK
B: IC201 Pin 113 FAO
C: IC201 Pin 112 TAO
A: 2.0 V/2 s, B: 200 mV/2 s, C: 200 mV/2 s
TEST MODE: TOC



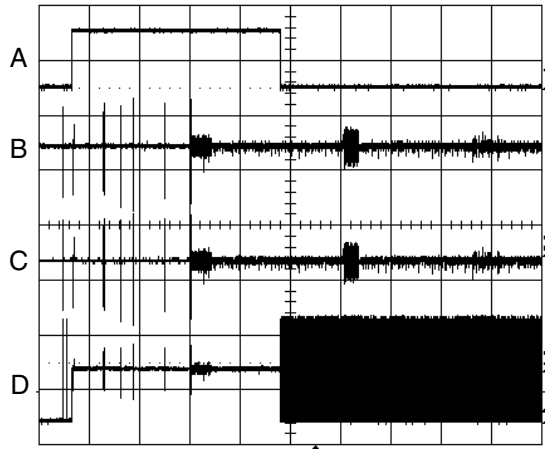
⑦ A: IC201 Pin 105 FOK
B: IC201 Pin 113 FAO
C: IC201 Pin 112 TAO
A: 2.0 V/2 s, B: 200 mV/2 s, C: 200 mV/2 s
TEST MODE: STOP-PLAY



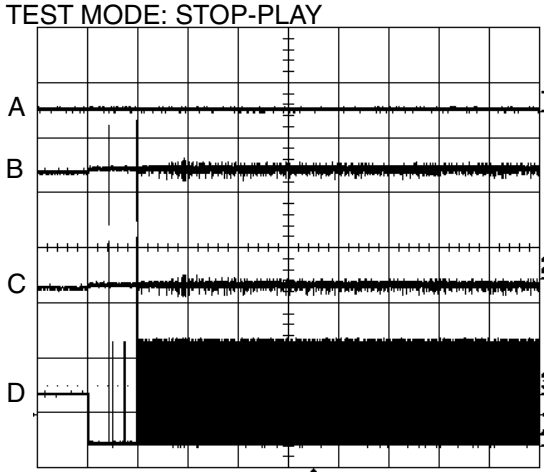
⑧ A: IC301 Pin 35 +F
B: IC301 Pin 31 +T
A: 1.0 V/0.5 s, B: 1.0 V/0.5 s
TEST MODE: STOP-PLAY



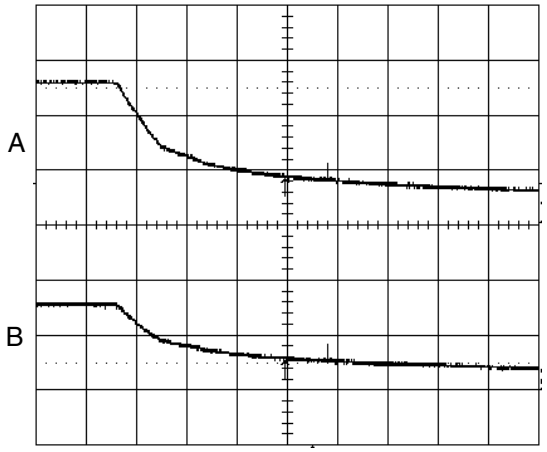
⑨ A: IC302 Pin 5 CE/FE-SW
B: IC302 Pin 6 FE
C: IC302 Pin 7 CE
D: IC302 Pin 1 CE/FE
A: 5.0 V/1 s, B: 1.0 V/1 s, C: 1.0 V/1 s, D: 2.0 V/1 s
TEST MODE: OP → CL: TOC



⑩ A: IC302 Pin 5 CE/FE-SW
B: IC302 Pin 6 FE
C: IC302 Pin 7 CE
D: IC302 Pin 1 CE/FE
A: 5.0 V/1 s, B: 1.0 V/1 s, C: 1.0 V/1 s, D: 2.0 V/1 s
TEST MODE: STOP-PLAY

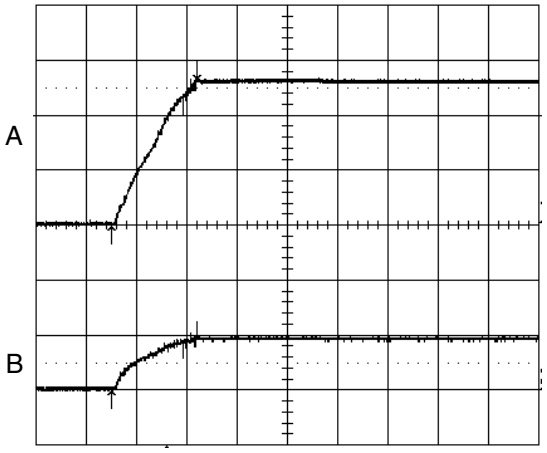


⑪ A: 5VU
B: IC402 Pin 5 PWR-FAIL
A: 2.0 V/10 ms, B: 2.0 V/10 ms
TEST MODE: PWR OFF

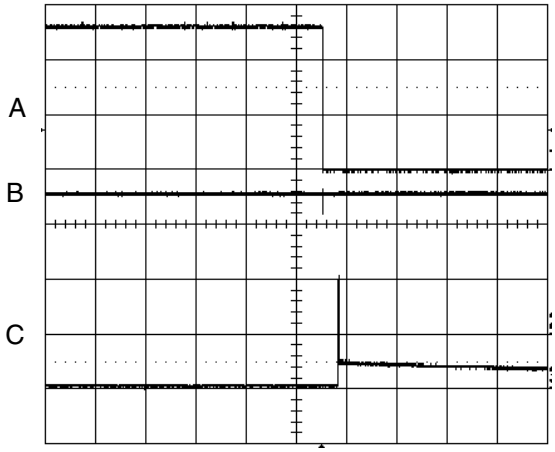


IC501 (SYSTEM CONTROL)

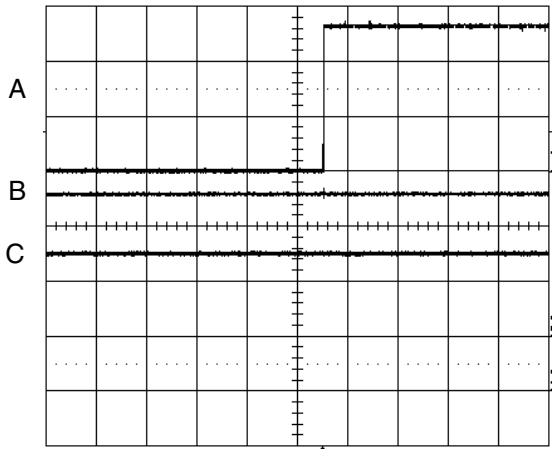
⑫ A: 5V
B: IC501 Pin 91 PWR-CTL
A: 2.0 V/10 ms, B: 2.0 V/10 ms
TEST MODE: PWR ON



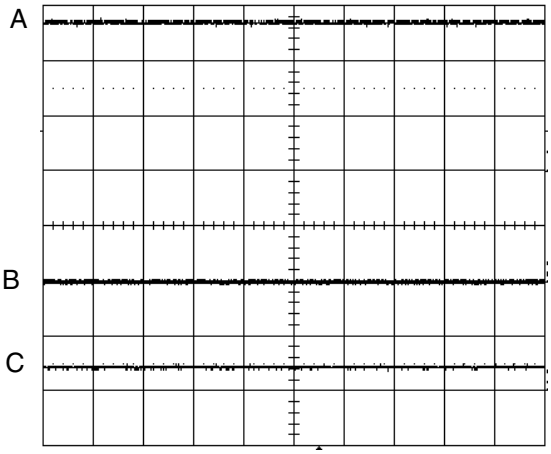
⑬ A: IC501 Pin 24 TRY-IN
B: IC501 Pin 61 TRY-OUT
C: IC501 Pin 23 TRY-CTL
A: 2.0 V/10 ms, B: 2.0 V/10 ms, C: 2.0 V/10 ms
TEST MODE: CL → OP



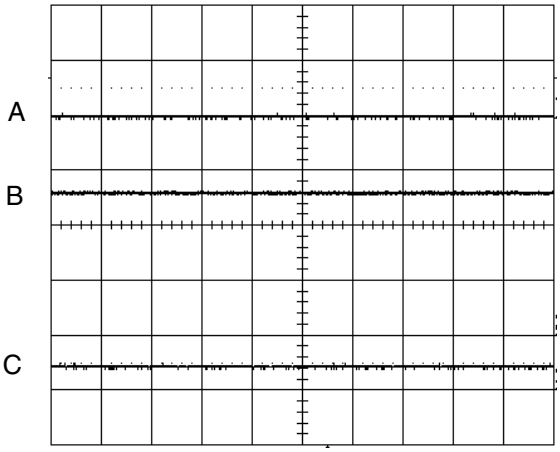
⑭ A: IC501 Pin 24 TRY-IN
B: IC501 Pin 61 TRY-OUT
C: IC501 Pin 23 TRY-CTL
A: 2.0 V/10 ms, B: 2.0 V/10 ms, C: 2.0 V/10 ms
TEST MODE: OP → CL



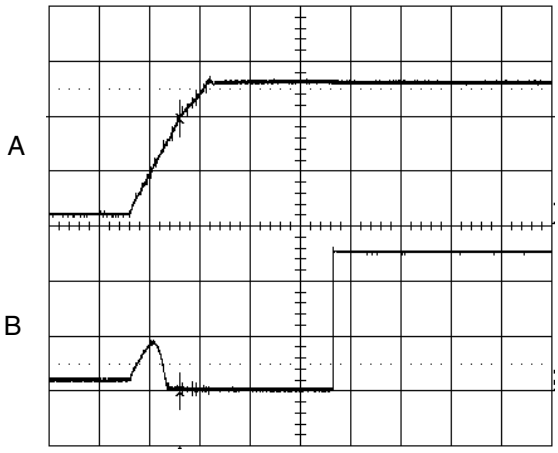
⑮ A: IC501 Pin 24 TRY-IN
B: IC501 Pin 61 TRY-OUT
C: IC501 Pin 23 TRY-CTL
A: 2.0 V/10 ms, B: 2.0 V/10 ms, C: 2.0 V/10 ms
TEST MODE: CLOSE



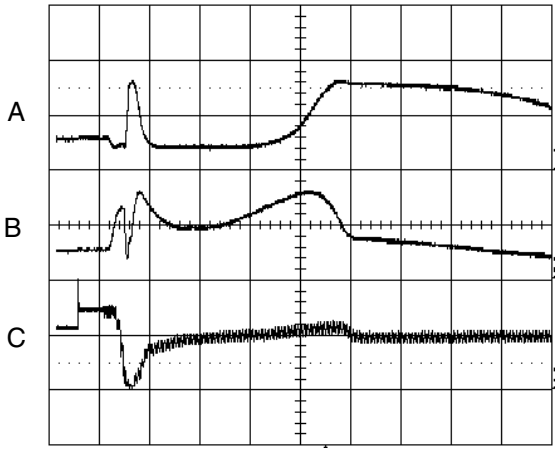
⑯ A: IC501 Pin 24 TRY-IN
B: IC501 Pin 61 TRY-OUT
C: IC501 Pin 23 TRY-CTL
A: 2.0 V/10 ms, B: 2.0 V/10 ms, C: 2.0 V/10 ms
TEST MODE: OPEN



⑰ A: 5VD
B: IC501 Pin 63 RESET
A: 2.0 V/10 ms, B: 2.0 V/10 ms
TEST MODE: POWER ON



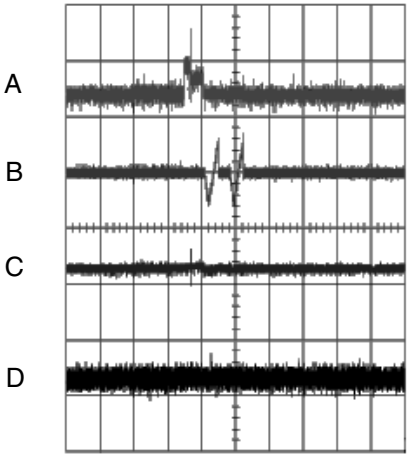
⑱ A: IC501 Pin 84 SLDPHA_A
B: IC501 Pin 85 SLDPHA_B
C: IC402 Pin 1 SLD_ERR
A: 2.0 V/2 s, B: 2.0 V/2 s, C: 2.0 V/2 s
TEST MODE: SLED WAVE



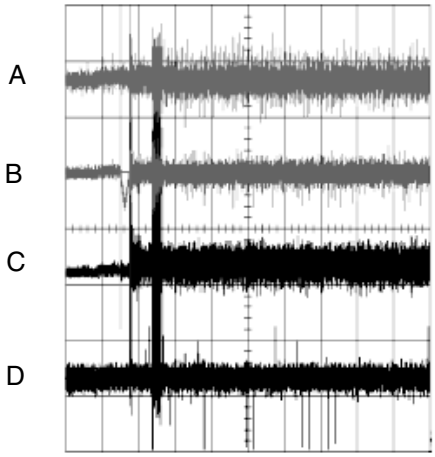
WAVEFORMS -4/5 (CD-R) -1/2

IC201 (FDSP + SERVO DECODER ENCODER)

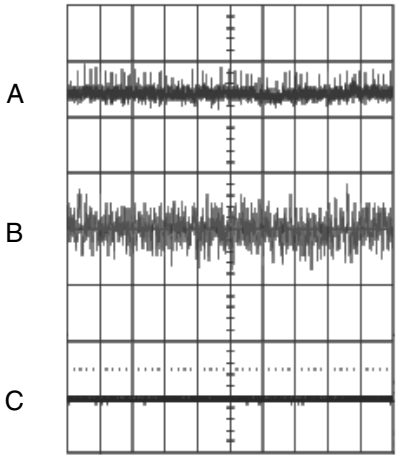
① A: IC201 Pin 197 FE, B: IC201 Pin 207 FAO
C: IC201 Pin 198 TE, D: IC201 Pin 208 TAO
A: 100 mV/1 s, B: 200 mV/1 s, C: 200 mV/1 s,
D: 200 mV/1 s
TEST MODE: NO DISC



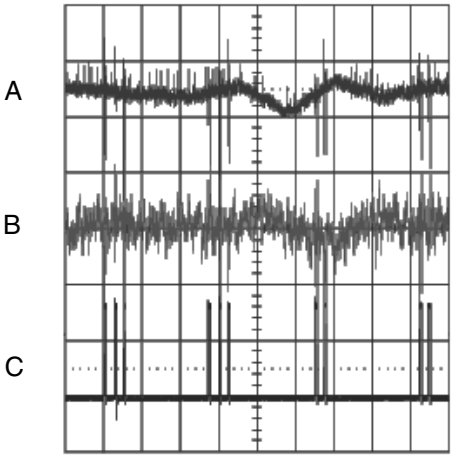
② A: IC201 Pin 197 FE,B: IC201 Pin 207 FAO
B: IC201 Pin 198 TE, D: IC201 Pin 68 TAO
A: 100 mV/1 s, B: 200 mV/1 s, C: 200 mV/1 s,
D: 200 mV/1 s
TEST MODE: STOP-PLAY



③ A: IC201 Pin 197 FE
B: IC201 Pin 198 TE
C: IC201 Pin 147 C2PO
A: 200 mV/0.2 ms, B: 200 mV/0.2 ms,
C: 2.0 V/0.2 ms
TEST MODE: NO DEFECT

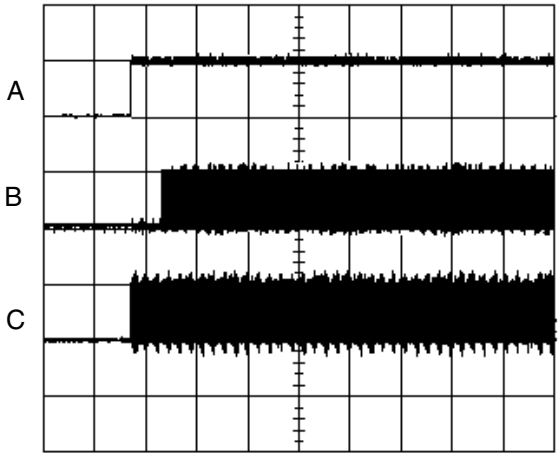


④ A: IC201 Pin 197 FE
B: IC201 Pin 198 TE
C: IC201 Pin 147 C2PO
A: 200 mV/0.2 ms, B: 200 mV/0.2 ms, C: 2.0 V/0.2 ms
TEST MODE: DEFECT



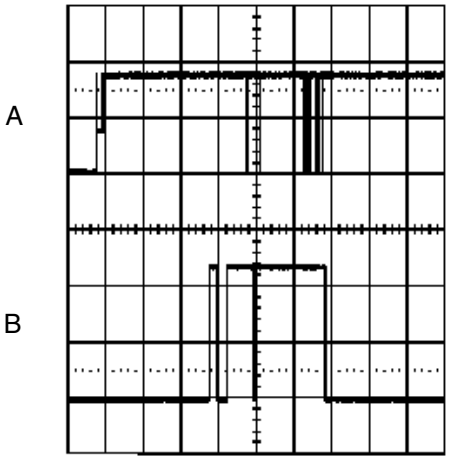
IC301 (ASIC)

⑤ A: IC301 Pin 66 AS-STRT
B: IC301 Pin 1 OUT-DATA
C: IC301 Pin 13 ADRO
A: 5.0 V/0.5 s, B: 5.0 V/0.5 s, C: 5.0 V/0.5 s,
TEST MODE: REC START

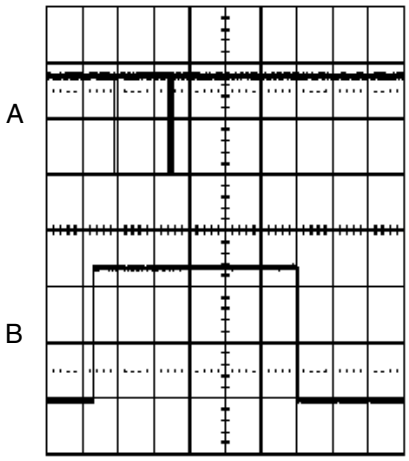


IC601 (LASER CONTROL)

⑥ A: IC601 Pin 23 LDON
B: IC601 Pin 20 ENBL
A: 2.0 V/2 s, B: 2.0 V/2 s
TEST MODE: PWR ON

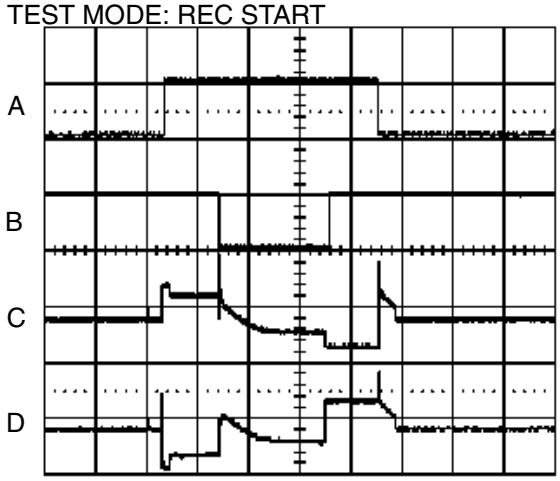


⑦ A: IC601 Pin 23 LDON
B: IC601 Pin 20 ENBL
A: 2.0 V/0.5 s, B: 2.0 V/0.5 s
TEST MODE: STOP → PLAY

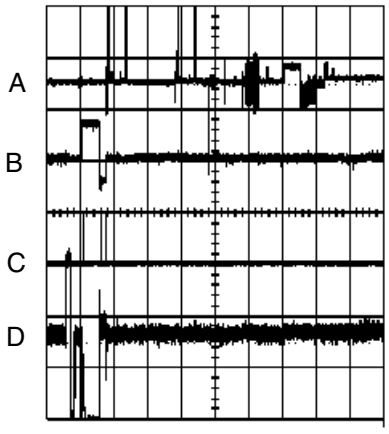


IC701 (SYSTEM CONTROL)

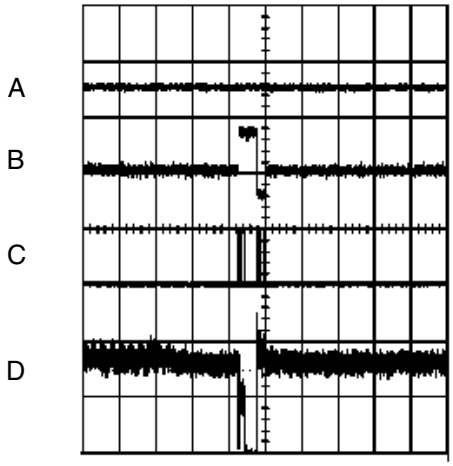
⑧ A: IC701 Pin 46 LOAD_SW
B: IC701 Pin 47 OPEN_SW
CN701 Pin 1 TRAY +
CN701 Pin 2 TRAY -
A: 5.0 V/1 s, B: 5.0 V/1 s, C: 5.0 V/1 s, D: 5.0 V/1 s
TEST MODE: REC START



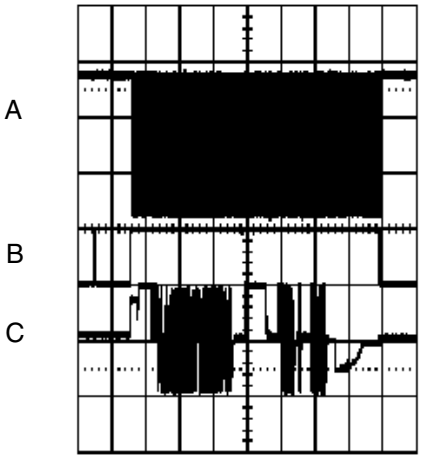
⑨ A: IC701 Pin 82 H/SLD OUT
B: IC701 Pin 85 SLDMOVE
C: IC701 Pin 97 SLDFG
D: IC502 Pin 17 SLD-OUT
A: 1.0 V/0.5 s, B: 200 mV/0.5 s, C: 5.0 V/0.5 s,
D: 200 mV/0.5 s
TEST MODE: OP-CLOSE



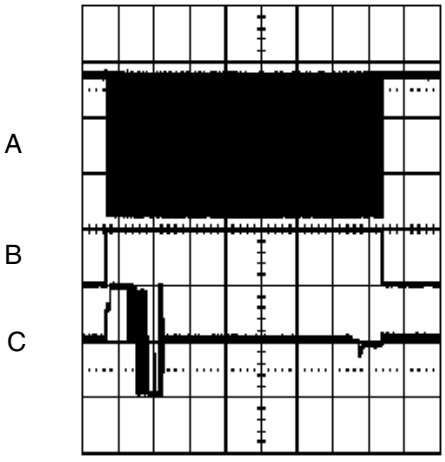
⑩ A: IC701 Pin 82 H/SLD OUT
B: IC701 Pin 85 SLDMOVE
C: IC701 Pin 97 SLDFG
D: IC502 Pin 17 SLD-OUT
A: 1.0 V/0.5 s, B: 200 mV/0.5 s, C: 5.0 V/0.5 s,
D: 200 mV/0.5 s
TEST MODE: PLAY-STOP



⑪ A: IC701 Pin 59 SPNFG
B: IC701 Pin 98 SPNON
C: IC201 Pin 2 DMO
A: 2.0 V/1 s, B: 2.0 V/1 s, C: 2.0 V/1 s
TEST MODE: OP-CLOSE

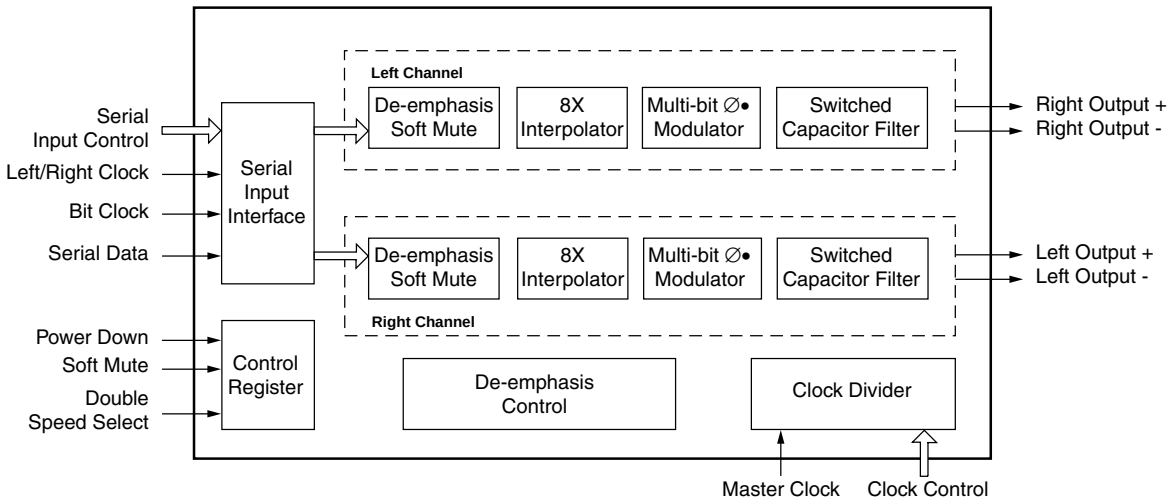


⑫ A: IC701 Pin 59 SPNFG
B: IC701 Pin 98 SPNON
C: IC201 Pin 2 DMO
A: 2.0 V/1 s, B: 5.0 V/1 s, C: 2.0 V/1 s
TEST MODE: PLAY-STOP

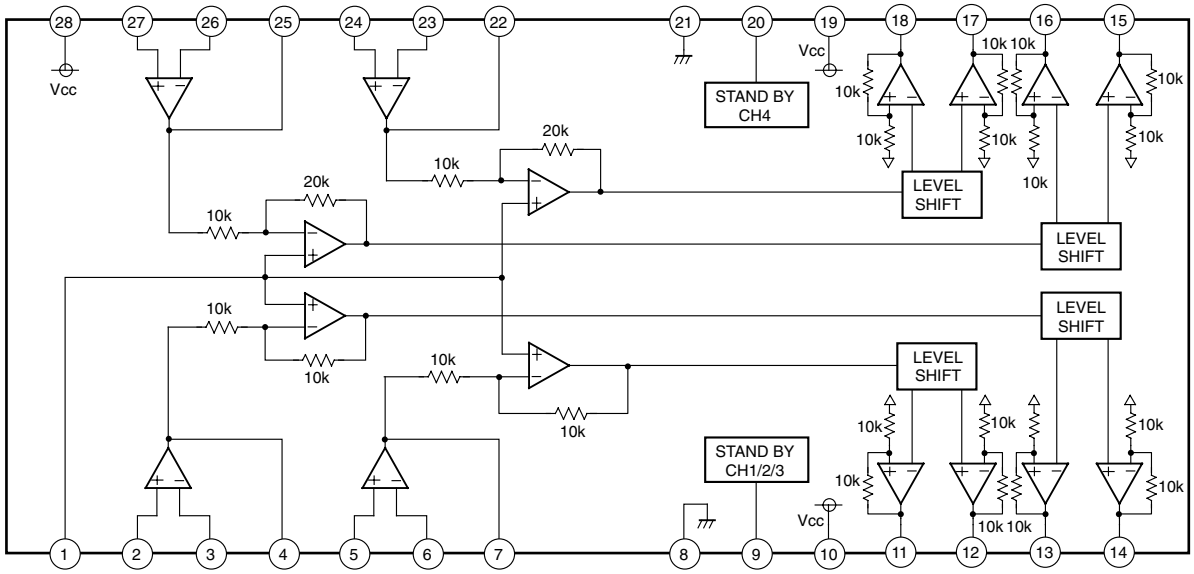


IC BLOCK DIAGRAM - 1/7

IC, AK4393VF-E2

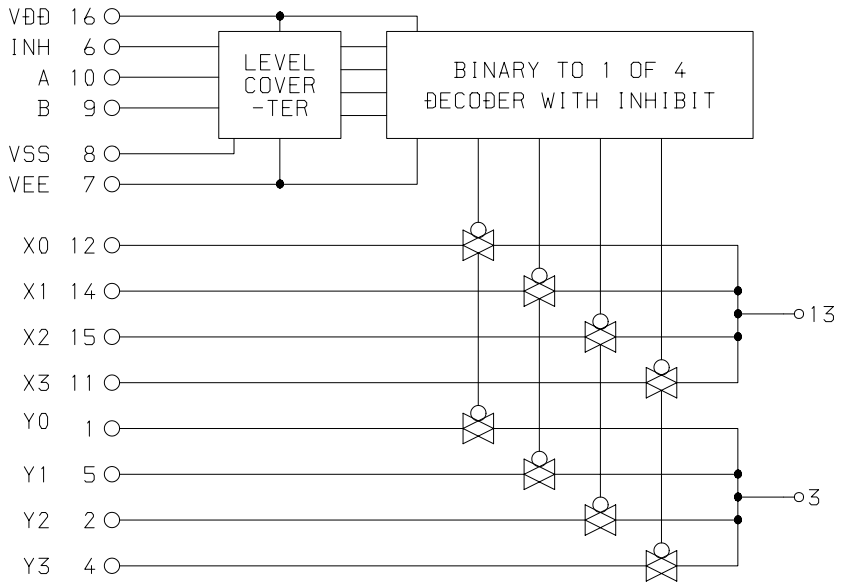


IC, BA5983FM



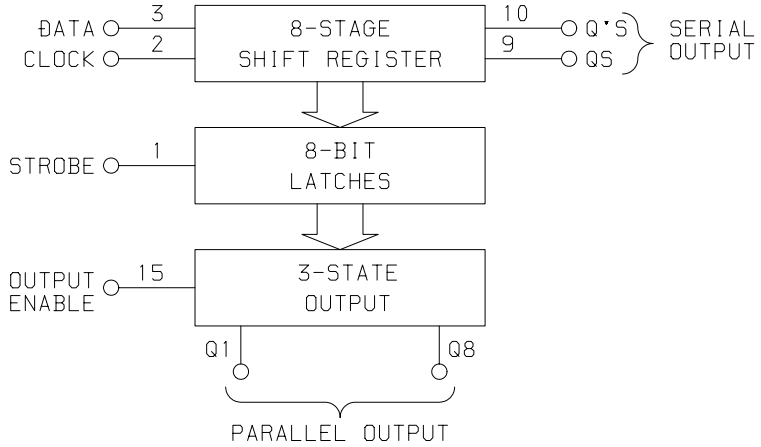
IC BLOCK DIAGRAM - 2/7

IC, BU4052BCF



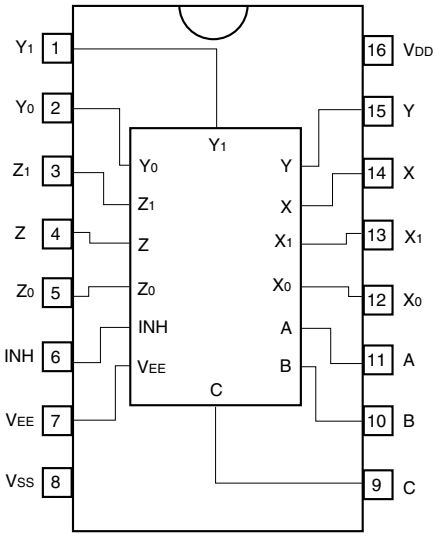
TRUTH TABLE

INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

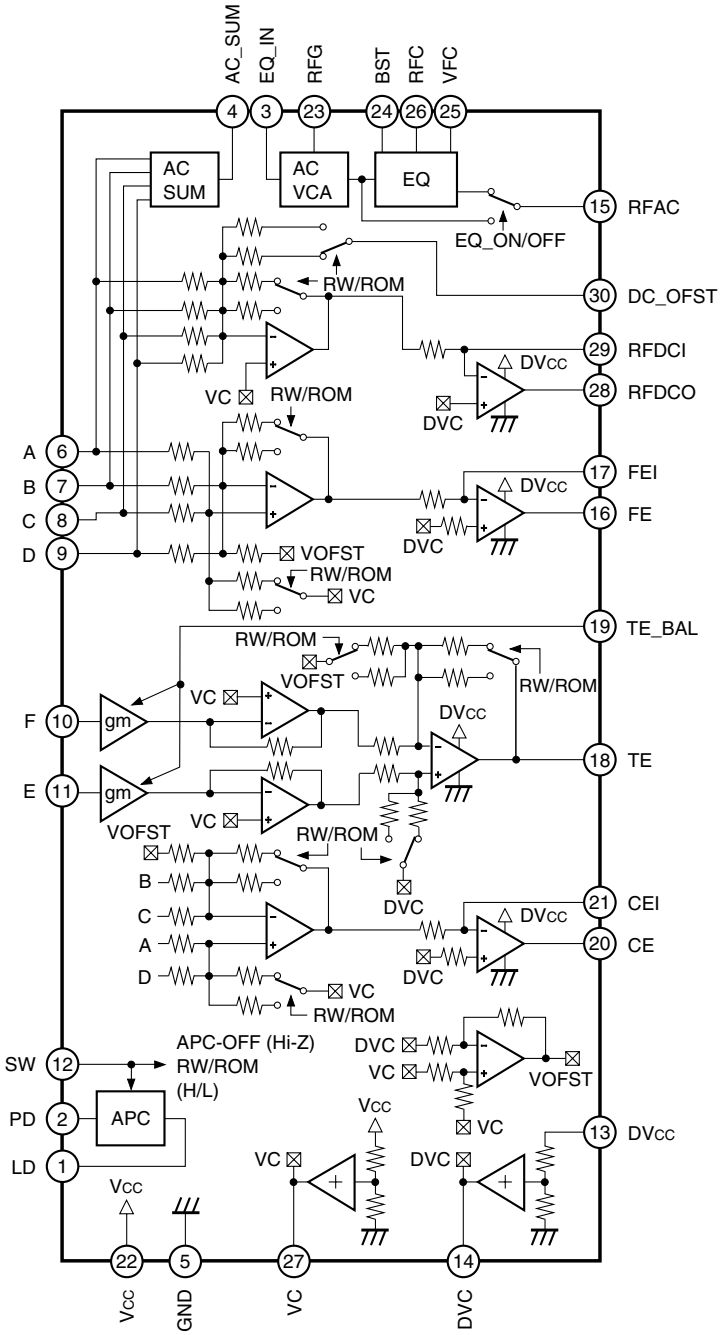


IC BLOCK DIAGRAM - 3/7

IC, BU4052BCFV, CD4053BCMX

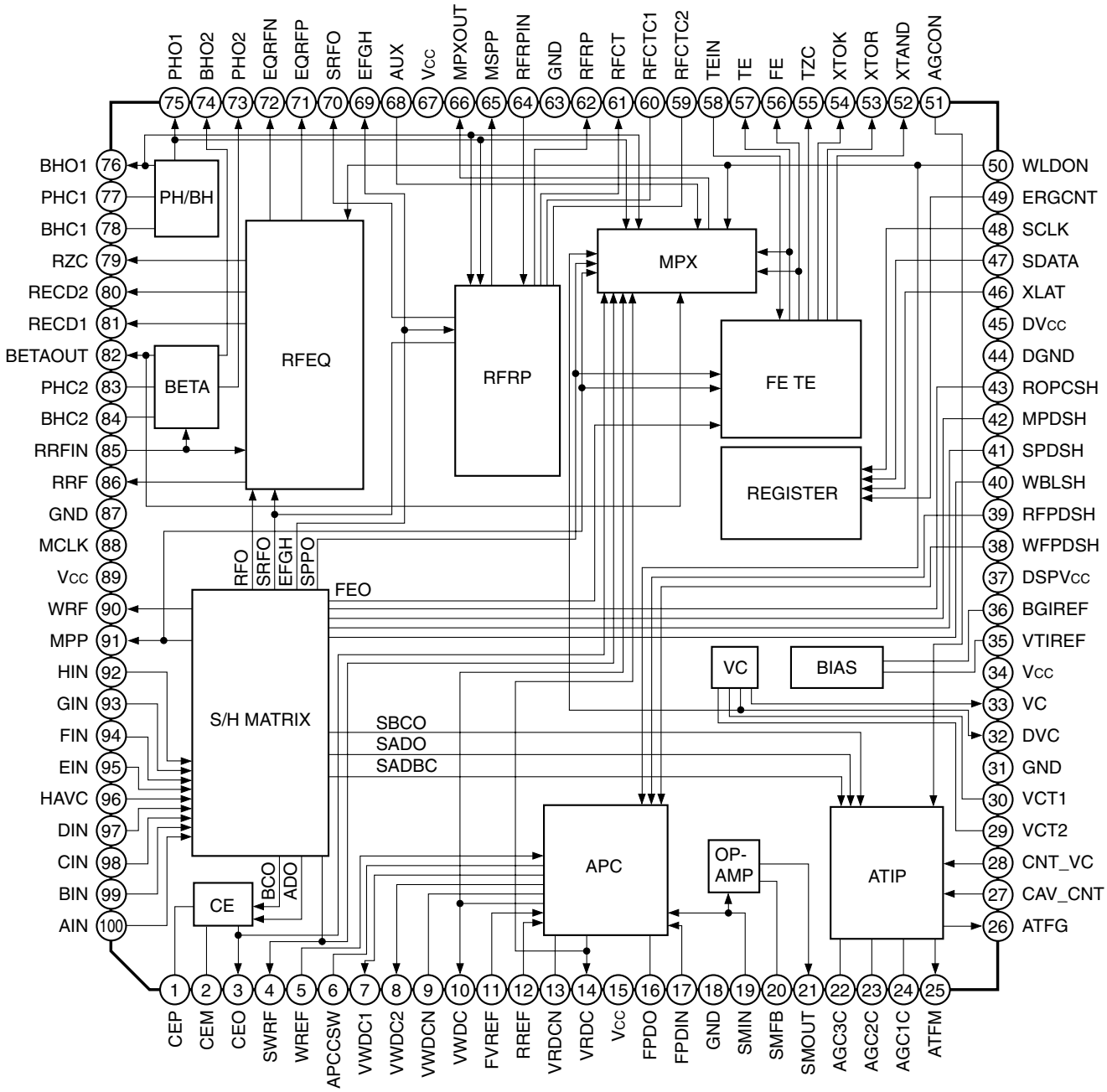


IC, CXA2581N



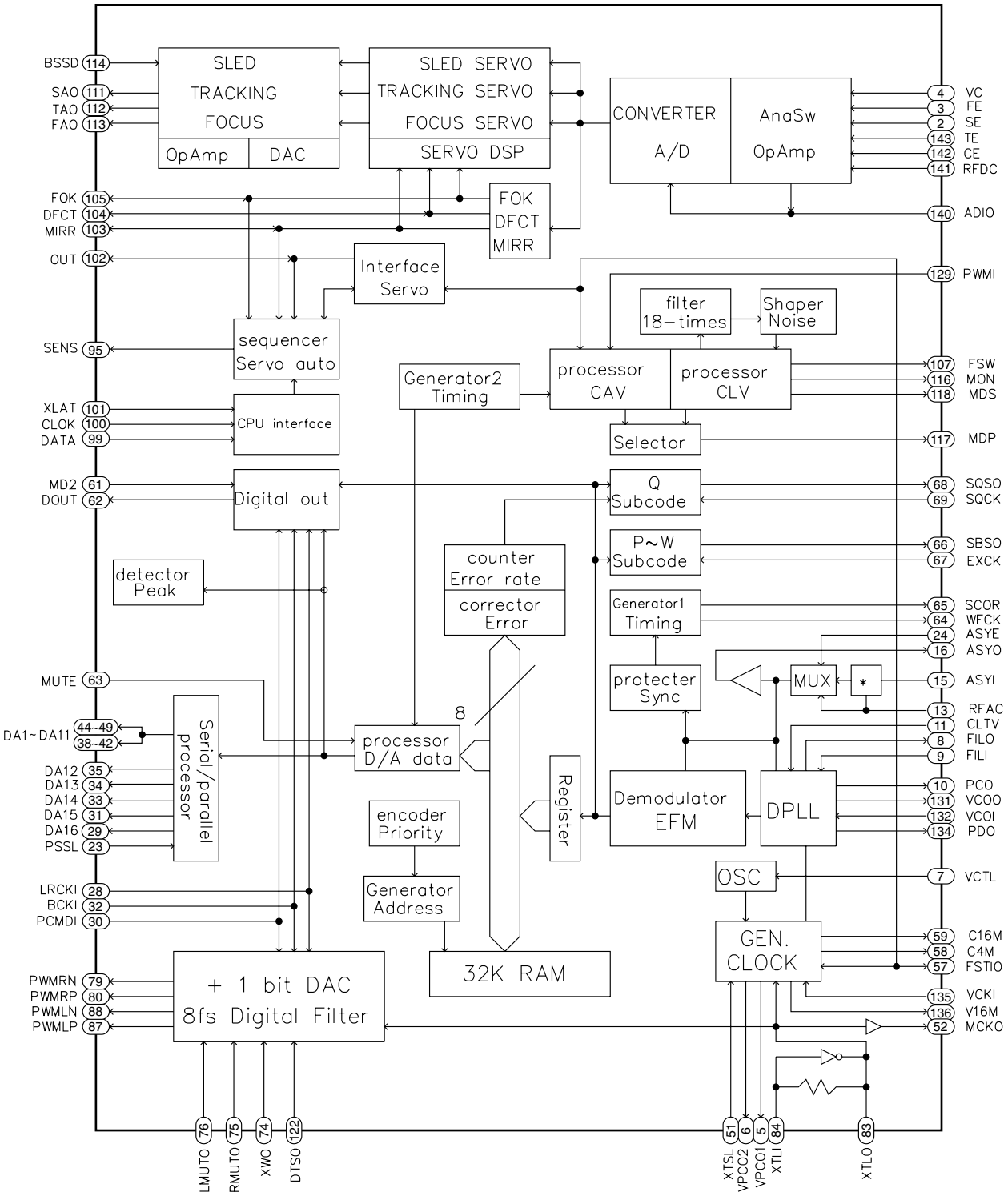
IC BLOCK DIAGRAM - 4/7

IC, CXA2551R



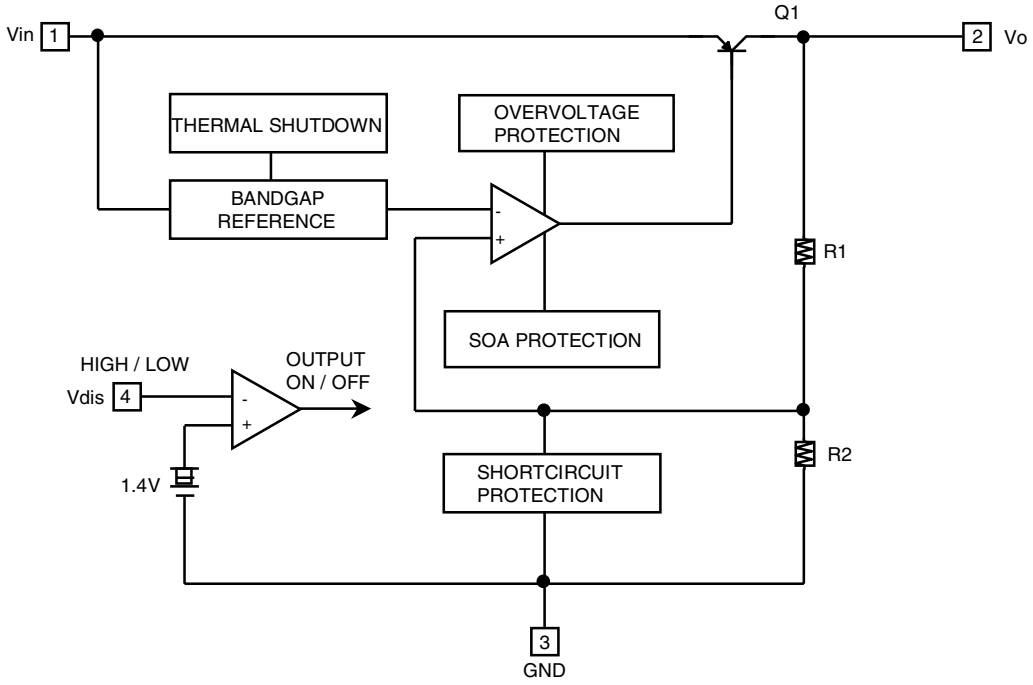
IC BLOCK DIAGRAM - 5/7

IC, CXD3011-1R

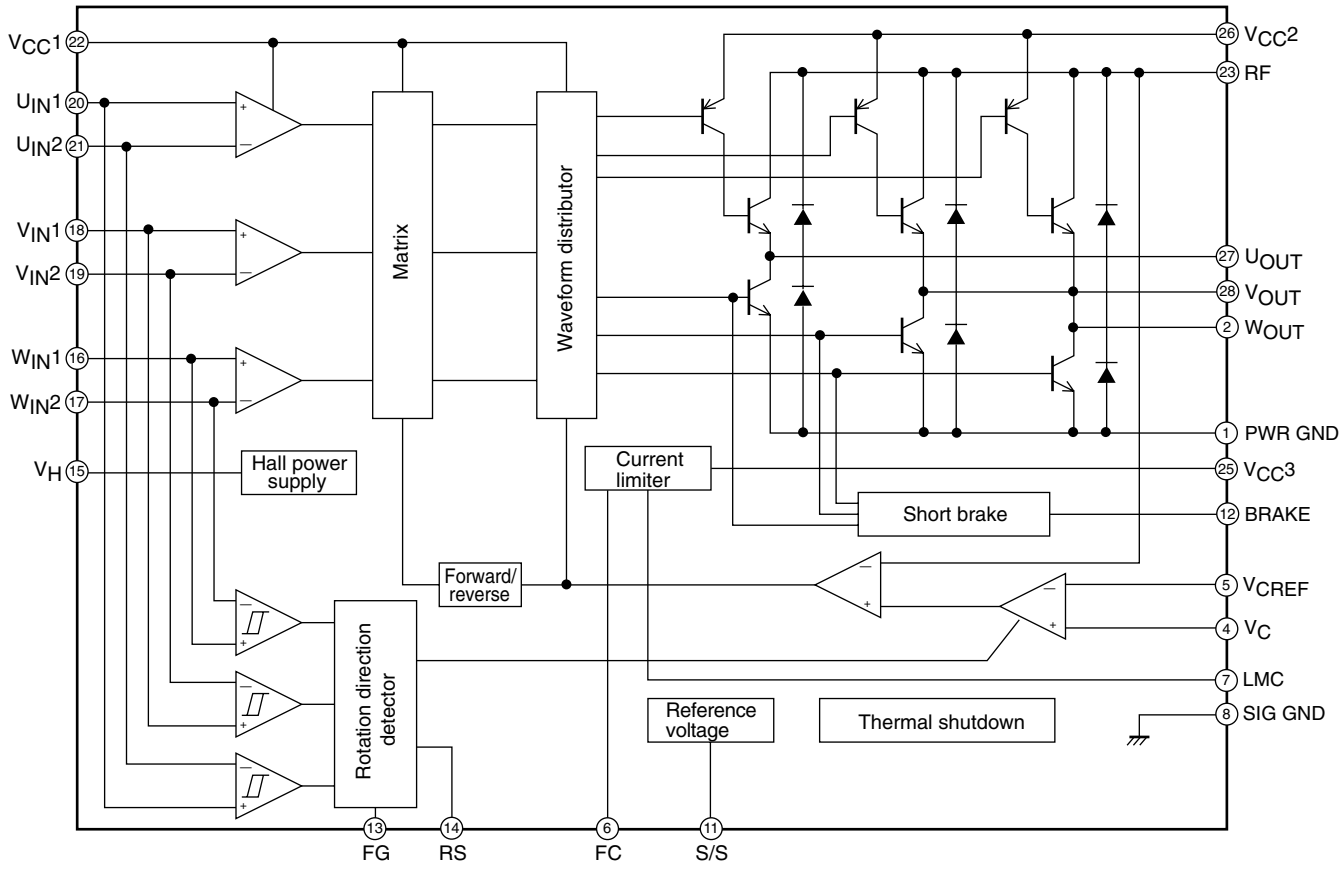


IC BLOCK DIAGRAM - 6/7

IC, KA78R12

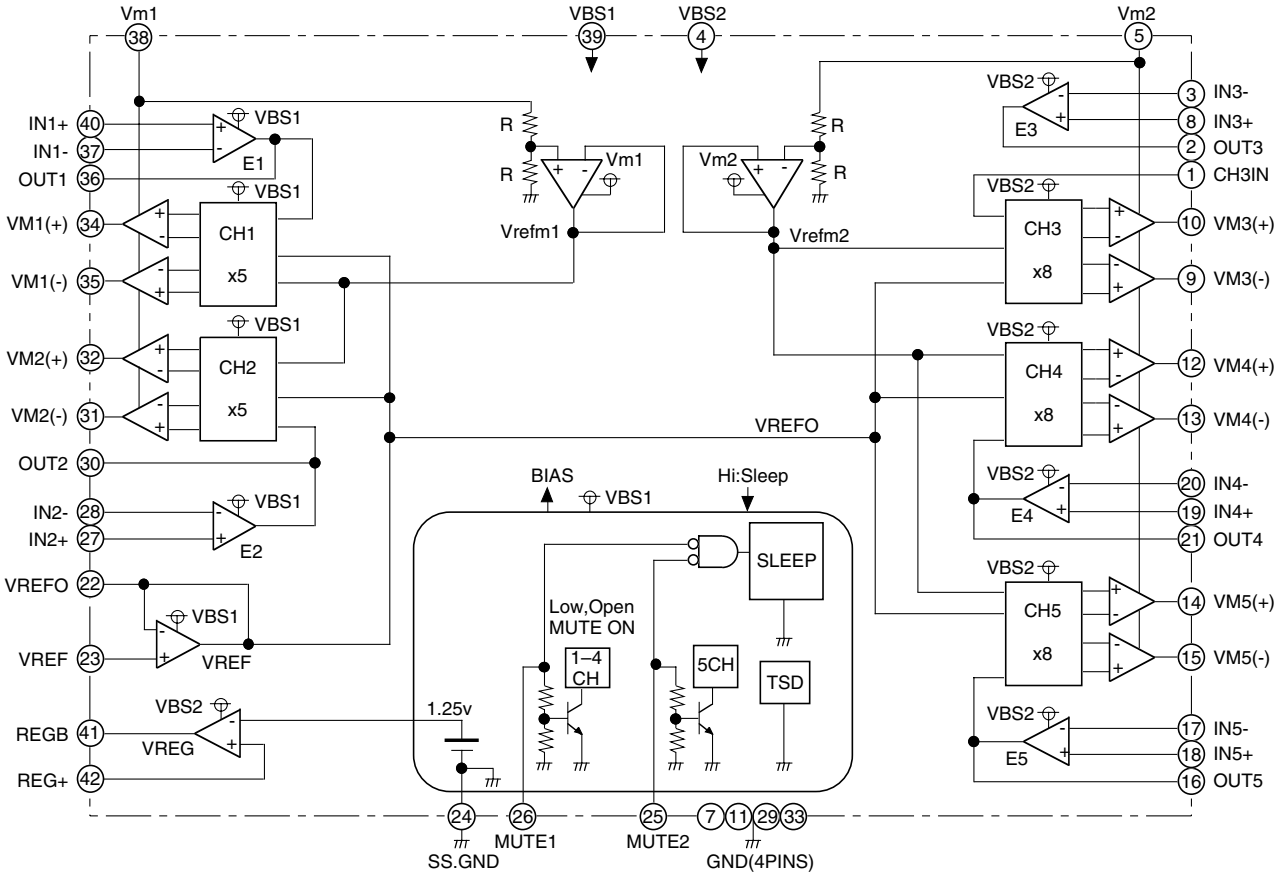


IC, LB11995H

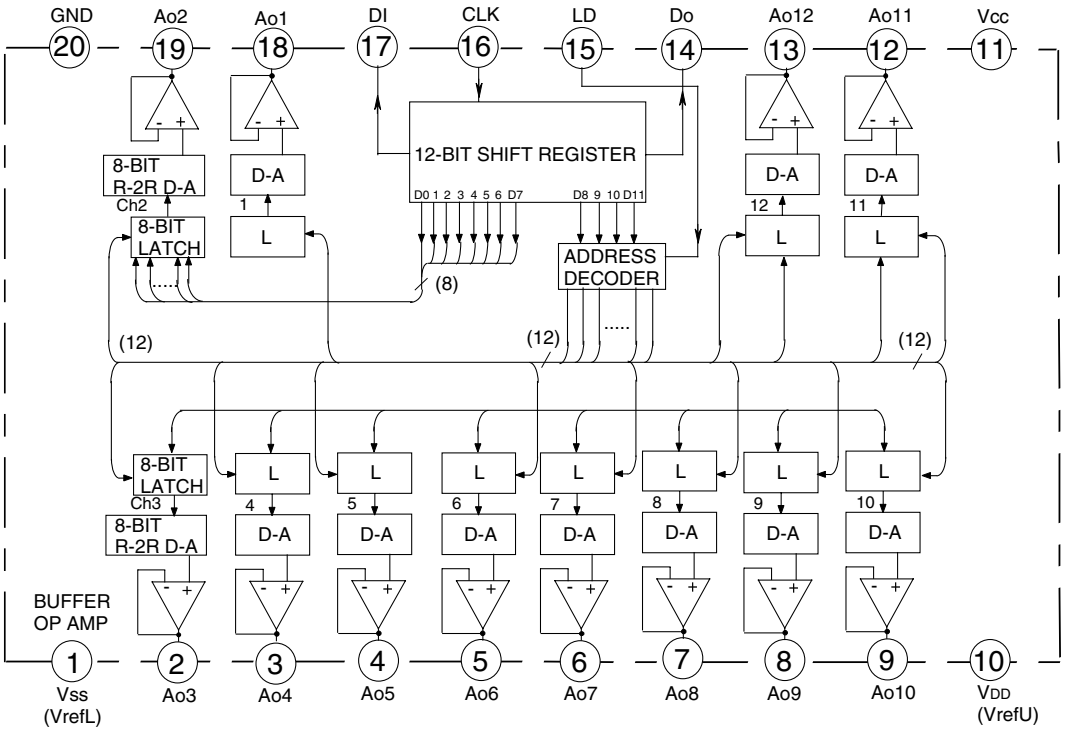


IC BLOCK DIAGRAM - 7/7

IC, M56788FP



IC, M62352GP



IC DESCRIPTION - 1/2 (AK4393VF-E2) -1/1

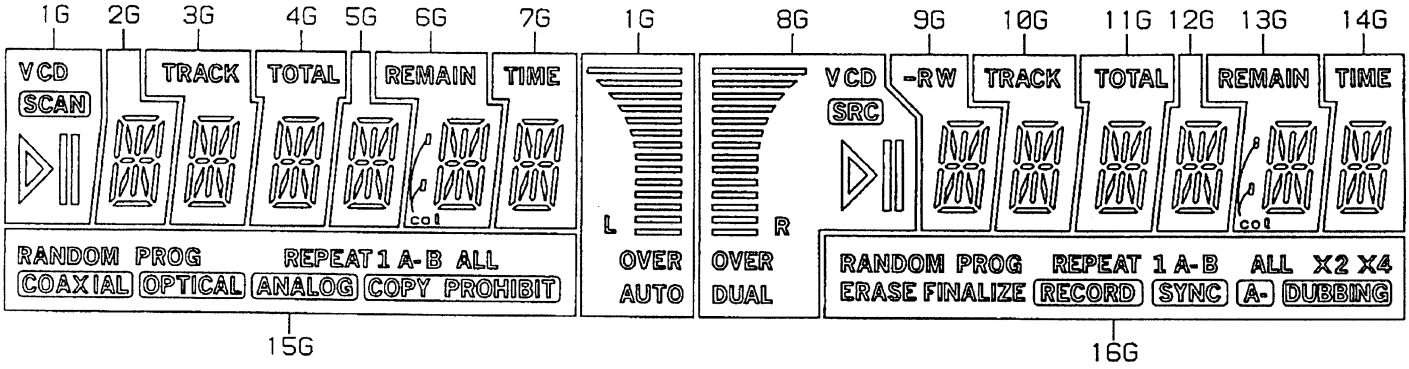
Pin No.	Pin Name	I/O	Description
1	DVSS	–	Digital Ground. Digital ground is 0 V.
2	DVDD	–	Digital Supply. 3.3 V or 5.0 V nominal.
3	MCLK	I	Master Clock Input.
4	$\overline{PD}$	I	Power-down and Reset. When low the AK4393 is in Power-down Mode and held in reset. The AK4393 should always be reset after power-up.
5	BICK	I	Audio Serial Data Clock Input. A clock input of 64fs or more is recommended.
6	SDATA	I	Serial Data Input.
7	LRCK	I	Left/Right Clock Input. Defines the sampling rate, F s .
8	SMUTE/$\overline{CS}$	I	Soft Mute Input or Chip Select Input. If the P/S pin (pin 25) is high, SMUTE controls the soft mute function as follows: • When SMUTE goes high, the soft mute cycle is initiated. • When SMUTE goes low, the output mute is slowly released. If the P/S pin is low, SMUTE is the Chip Select Input for the Serial Control Mode. Chipselect is active when SMUTE is low.
9	DFS	I	Double Sampling Speed Input. When low, this pin defines the Normal Speed Mode, and 128 x F s oversampling is implemented. When high, the DFS pin defines the Double Speed Mode, implemented with 64 x F s oversampling. This pin features an internal pull-down.
10	DEM0/CCLK	I	De-emphasis Enable #0 or Control Data Clock Input. If the P/S pin (pin 25) is high, DEM0 is used to select the De-emphasis Mode according to Table 3. If the P/S pin is low, DE 0 is the clock input for the Serial Control Mode.
11	DEM1/CDTI	I	De-emphasis Enable #1 or Control Data Input. If the P/S pin (pin 25) is high, DEM1 is used to select the De-emphasis Mode according to Table 3. If the P/S pin is low, DEM1 is the control data input for the Serial Control Mode.
12	DIF 0	I	Digital Input Format Select #0.
13	DIF 1	I	Digital Input Format Select #1.
14	DIF 2	I	Digital Input Format Select #2.
15	BVSS	–	Substrate Ground Pin. Substrate ground is 0 V.
16	VREFL	I	Low Level Voltage Reference Input. Normally connected to analog ground.
17	VREFH	I	High Level Voltage Reference Input. Normally connected to analog supply.
18	AVDD	–	Analog Supply. Analog supply is 5 V nominal.
19	AVSS	–	Analog Ground. Analog ground is 0 V.
20	AOUTR–	O	Right Channel Negative Output.
21	AOUTR+	O	Right Channel Positive Output.
22	AOUTL–	O	Left Channel Negative Output.
23	AOUTL+	O	Left Channel Positive Output.
24	VCOM	O	Common Voltage Output. Common voltage output is 2.6V nominal.
25	P/S	I	Parallel/Serial Control Mode Select Input. If Low, the Serial Control Mode is implemented. If High, the Parallel Control Mode is selected. This pin has an internal pull-up.
26	CKS 0	I	Master Clock Select #0.
27	CKS 1	I	Master Clock Select #1.
28	CKS 2	I	Master Clock Select #2.

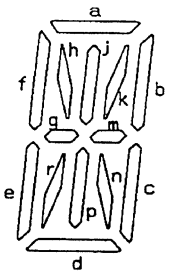
IC DESCRIPTION - 2/2 (CXA2581N) 1/1

Pin No.	Pin Name	I/O	Description
1	LD	O	APC amplifier output.
2	PD	I	APC amplifier input.
3	EQ_IN	I	RFAC system VCA block and EQ block input.
4	AC_SUM	O	RFAC system RF SUM output.
5	GND	I	GND
6	A	I	A signal input.
7	B	I	B signal input.
8	C	I	C signal input.
9	D	I	D signal input.
10	E	I	E signal input.
11	F	I	F signal input.
12	SW	I	Mode switching signal input.
13	DVCC	I	DVcc
14	DVC	O	DVC output.
15	RFAC	O	RFAC signal output.
16	FE	O	Focus error signal output.
17	FEI	I	FE amplifier virtual ground.
18	TE	O	Tracking error signal output.
19	TE_BAL	I	TE balance adjustment.
20	CE	O	Center error signal output.
21	CEI	I	CE amplifier virtual ground.
22	VCC	I	Vcc
23	RFG	I	RFAC system VCA block low frequency gain adjustment.
24	BST	I	EQ boost level adjustment.
25	VFC	I	EQ cut-off frequency adjustment.
26	RFC	I	EQ cut-off frequency adjustment.
27	VC	O	VC voltage output.
28	RFDCO	O	RFDC signal output.
29	RFDCI	I	RFDC amplifier virtual ground.
30	DC_OFST	I	RFDC signal output offset adjustment.

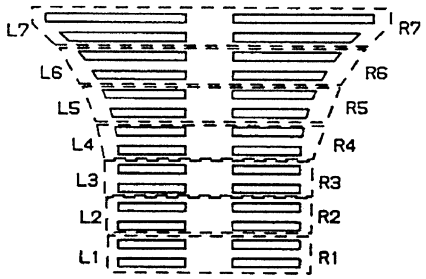
FL DISPLAY - 1/1

GRID ASSIGNMENT





(2G~7G, 9G~14G)

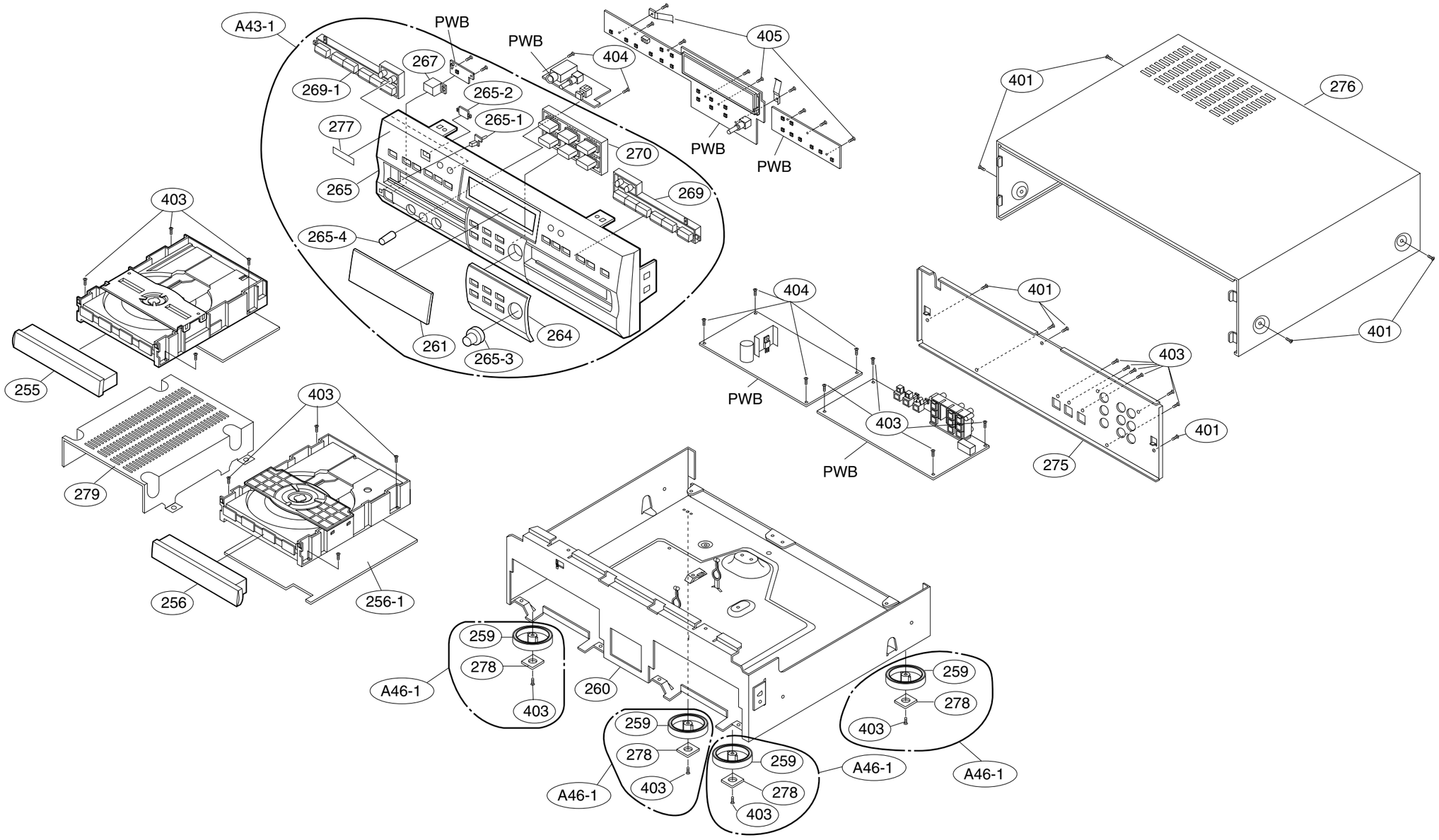


(1G) (8G)

ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G
P1	L7	a	a	a	a	a	a	R7	a	a	a	a	a	a	RANDOM	RANDOM
P2	L6	j	j	j	j	j	j	R6	j	j	j	j	j	j	PROG	PROG
P3	L5	h	h	h	h	h	h	R5	h	h	h	h	h	h	REPEAT	REPEAT
P4	L4	k	k	k	k	k	k	R4	k	k	k	k	k	k	1	1
P5	L3	b	b	b	b	b	b	R3	b	b	b	b	b	b	A-	A-
P6	L2	f	f	f	f	f	f	R2	f	f	f	f	f	f	B	B
P7	L1	g	g	g	g	g	g	R1	g	g	g	g	g	g	ALL	ALL
P8	L	m	m	m	m	m	m	R	m	m	m	m	m	m	COAXIAL	X2
P9	V	c	c	c	c	c	c	V	c	c	c	c	c	c	OPTICAL	X4
P10	CD	e	e	e	e	e	e	CD	e	e	e	e	e	e	ANALOG	ERASE
P11	SCAN	r	r	r	r	r	r	SRC	r	r	r	r	r	r	COPY PROHIBIT	FINALIZE
P12	▷	n	n	n	n	n	n	▷	n	n	n	n	n	n	-	RECORD
P13	‖	p	p	p	p	p	p	‖	p	p	p	p	p	p	-	SYNC
P14	OVER	d	d	d	d	d	d	OVER	d	d	d	d	d	d	-	A-
P15	AUTO	-	TRACK	TOTAL	-	REMAIN	TIME	DUAL	-R	TRACK	TOTAL	-	REMAIN	TIME	-	DUBBING
P16	-	-	-	-	-	col	-	-	W	-	-	-	col	-	-	-

MECHANICAL EXPLODED VIEW - 1/1



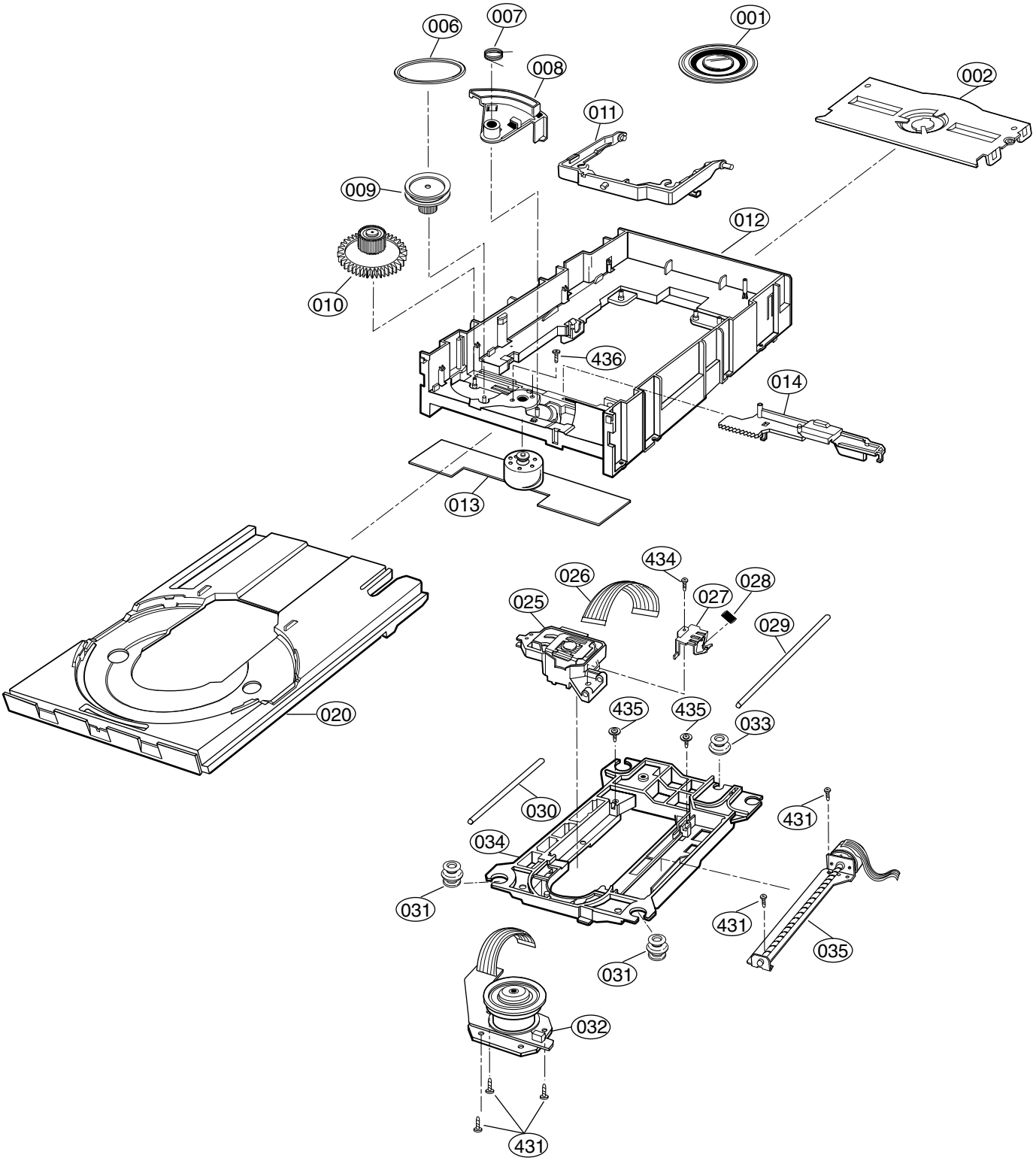
MECHANICAL MAIN PARTS LIST - 1/1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
255	S5-80R-T01-4A0		DOOR CDP
256	S5-80R-T01-5A0		DOOR CDR
256-1	-----		DECK ASSY,AUDIO AADR600/640N E
259	S6-10S-019-2E0		FOOT ADR-640
260	-----		CHASSIS MAIN
261	S7-90R-P01-8A0		WINDOW FL
264	S8-06R-001-0A0		DECO PANEL
265	S7-20R-F13-2A0		PANEL FRONT
265-1	S7-90R-L04-6A0		WINDOW POWER
265-2	S7-90R-P01-9A0		WINDOW SNSR
265-3	S9-40R-V01-5A0		KNOB REC
265-4	S9-40R-V01-6A0		KNOB VOL
267	S9-40R-T02-8A0		KNOB POWER
269	S9-40R-T02-6A0		KNOB FUNC-R
269-1	S9-40R-T02-5A0		KNOB FUNC-L
270	S9-40R-T02-7A0		KNOB CONTROL
275	S7-20R-Z01-5C0		PANEL BACK
276	S1-10R-022-1A0		CASE TOP
277	S3-00R-015-2B0		PLATE BADG
278	S7-66R-000-3A0		FELT FOOT(19.7-19.7)
279	S5-50S-102-7B0		COVER RW DECK
401	87-741-170-410		SCREW TAPTITE 4-8
403	S3-530-46K-000		SPECIAL SCREW 3-10 B.K
404	S5-305-1AA-AA0		SCREW TAP/T,WASHER 3-10
405	S3-530-46N-000		SPECIAL SCREW 3-8 BK
A43-1	S7-21R-F17-4A0		PANEL ASSY FRONT
A46-1	S6-10R-B00-01D		FOOT BOTTOM ASSY

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green		

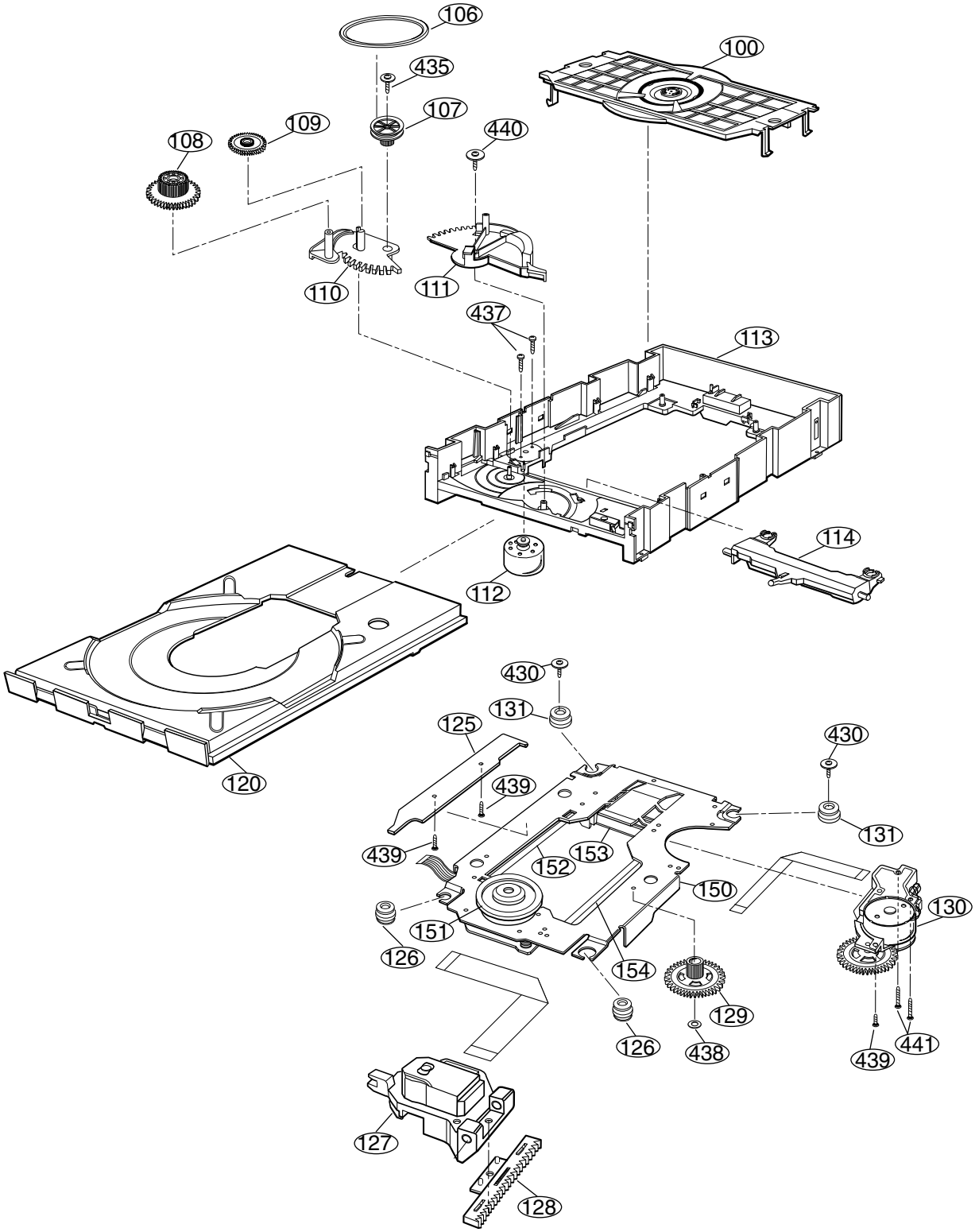
CD-P MECHANISM EXPLODED VIEW - 1/1



CD-P MECHANISM MAIN PARTS LIST - 1/1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
001	S8-61R-000-4A0		CLAMP ASSY Q1 E2 ACDR
002	S9-30H-106-1A0		HOLDER CLAMP(GM-RT1332A)
006	S4-00H-100-9A0		BELT GM-RT1332A
007	S9-70H-108-7A0		SPRING LEVER SWITCH
008	S5-10H-103-3A0		LEVER SWITCH(Q1)
009	S5-60H-101-5A0		PULLEY GEAR (Q1)
010	S4-70H-111-5A0		GEAR LOADING(Q1)
011	S0-40H-105-6A0		BASE UP/DOWN(Q1)
012	S0-40H-105-5A0		BASE MAIN(Q1)
013	S6-81H-102-4A0		MOTOR ASSY LOADING
014	S9-74H-103-4A0		GUIDE UP/DOWN(Q1)
020	S3-90H-101-6C0		TRAY DISC(IBM, BLACK)
025	S7-16S-E00-1A0		PICK UP SF-P151EXVA
026	S8-50H-D1L-16A		CABLE,FLEXIBLE(05-65)160 B
027	S9-74H-103-9A0		GUIDE FEED
028	S9-70H-108-6A0		SPRING FEED
029	S3-70H-102-4C0		SHAFT P/U (R,GM-RT1332A)
030	S3-70H-102-5B0		SHAFT P/U (L,GM-RT1332A)
031	S0-40H-105-3A0		RUBBER GM-RT1332A (F)
032	S6-80H-B10-19A		MOTOR(MECH) GCS-L32A LGEC SPIN
033	S0-40H-105-2A0		RUBBER GM-RT1332A(R)
034	S0-40H-105-7A0		BASE P/U(Q1)
035	S6-80H-P50-02B		MOTOR(MECH) 15S1R10F6NC3
431	87-261-553-310		SCREW,2.0-6
434	87-263-533-310		SCREW,+ D1.7 6MM
435	8Z-YP4-242-010		SCREW,+ D1.7 5MM
436	87-351-530-310		SCREW,1.7-4.5

CD-R MECHANISM EXPLODED VIEW - 1/1

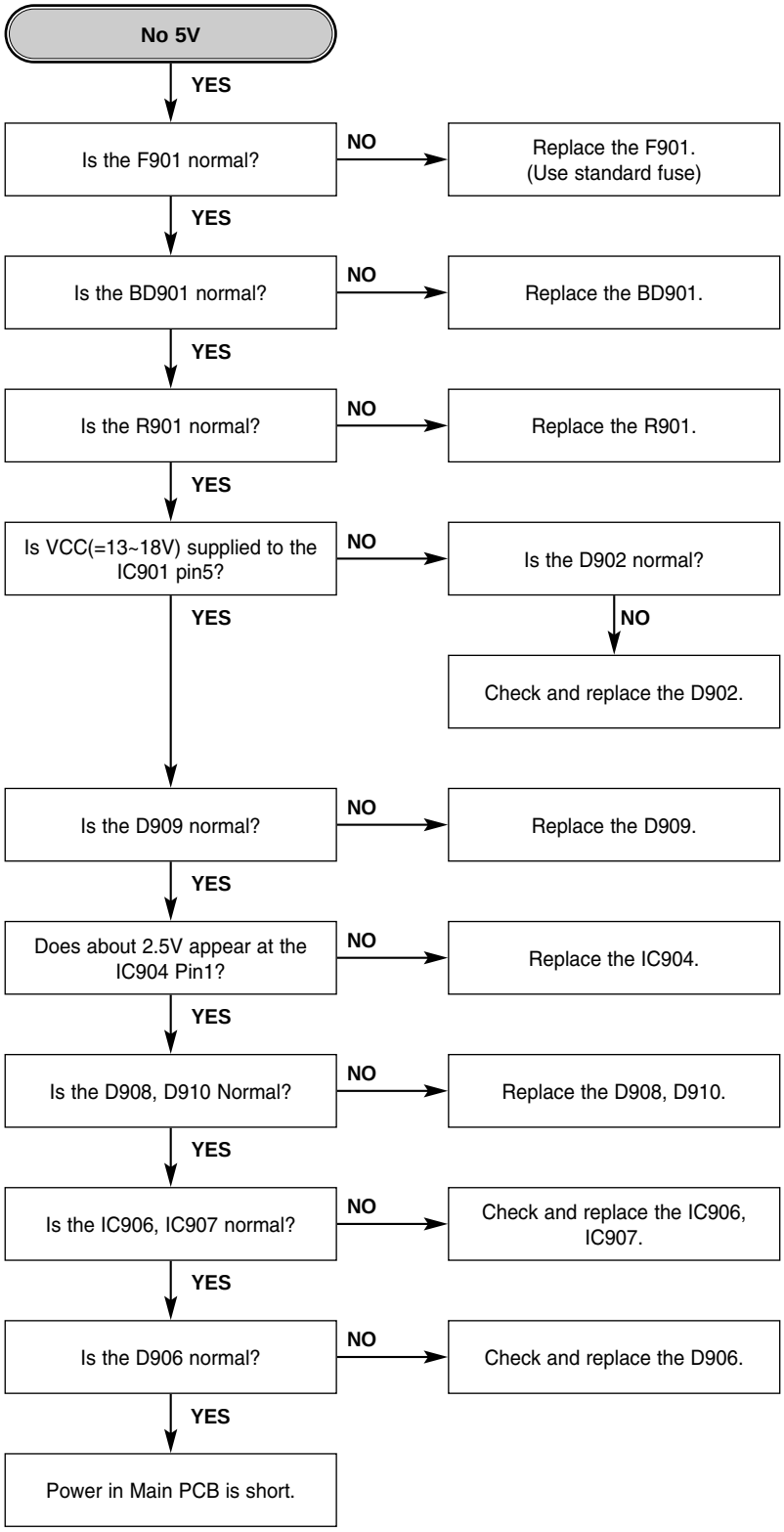


CD-R MECHANISM MAIN PARTS LIST - 1/1

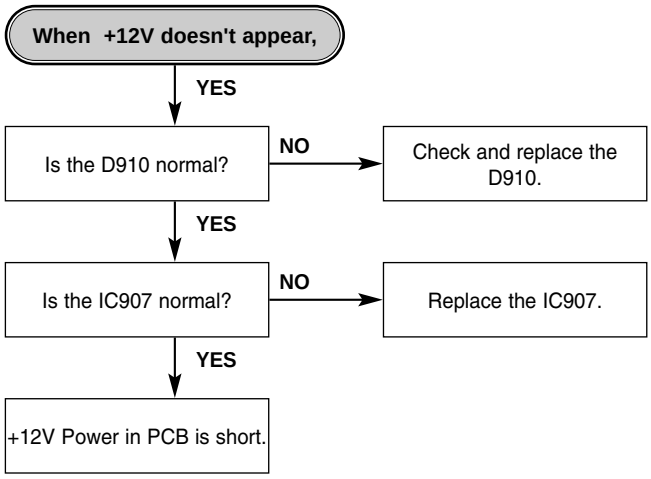
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
100	S8-61H-000-8A0		CLAMP ASSY GM-WT1524A
106	S4-00H-100-3A0		BELT GM-R512
107	S5-60H-100-4A0		PULLEY GEAR
108	S4-70H-101-5A0		PULLEY GEAR LOADING
109	S4-70H-101-6A0		PULLEY GEAR MIDDLE
110	S9-74H-101-8A0		GUIDE PLATE
111	S9-74H-102-3A0		GUIDE UP/DOWN(K1)
112	S6-81H-102-4A0		MOTOR ASSY LOADING
113	S0-40H-103-5B0		BASE MAIN(E2)
114	S0-40H-105-9A0		BASE UP/DOWN(E2)
120	S3-90H-101-1D0		TRAY DISC(E2/HORIZONTAL/BLACK)
125	S8-10H-104-2A0		BRACKET WEIGHT BALANCER
126	S0-40H-105-5B0		RUBBER FRONT(E4)
127	S7-16R-E00-2A0		PICK UP KRS-220C
128	S4-71H-000-3A0		GEAR ASSY RACK(E2)
129	S4-71H-000-4A0		GEAR ASSY PINION(E2)
130	S4-05H-108-4B0		MECHANISM ASSY SLED UNIT
131	S0-40R-004-7A0		RUBBER REAR
150	———		CHASSIS P/U(E2)
151	S6-80H-B10-34A		MOTOR(MECH) GRS-R02A LGP SPIND
152	S3-70H-107-8A0		SHAFT P/U(L/CD-RW)
153	S9-30H-107-5A0		HOLDER FFC (E4)
154	S3-70H-107-9A0		SHAFT P/U(R/CD-RW)
430	SS-ZZH-100-3A0		SCREW,D2.0-6
435	8Z-YP4-242-010		SCREW,+ D1.7 5MM
437	87-357-529-310		SCREW,+ D1.7 4MM
438	SW-ZZH-100-9A0		WASHER,POLY
439	87-261-553-310		V+2-6 BLK
440	87-264-534-310		SCREW,+ D1.7 7MM
441	8Z-YP4-242-010		SCREW,+ D1.7 5MM

1. POWER CIRCUIT(SMPS)

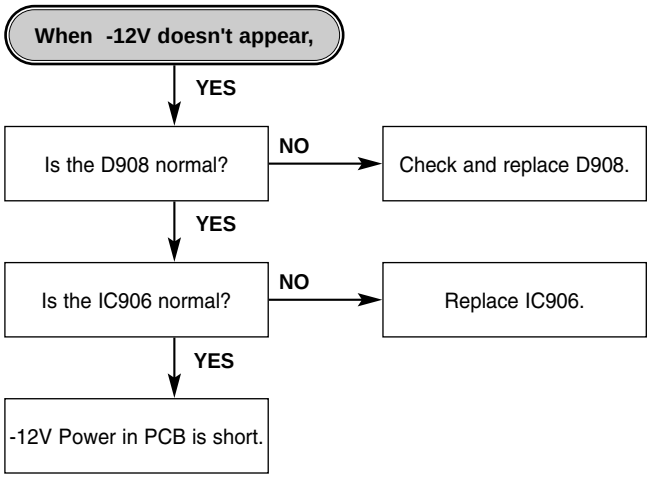
1) NO 5V(-COM, FRONT)



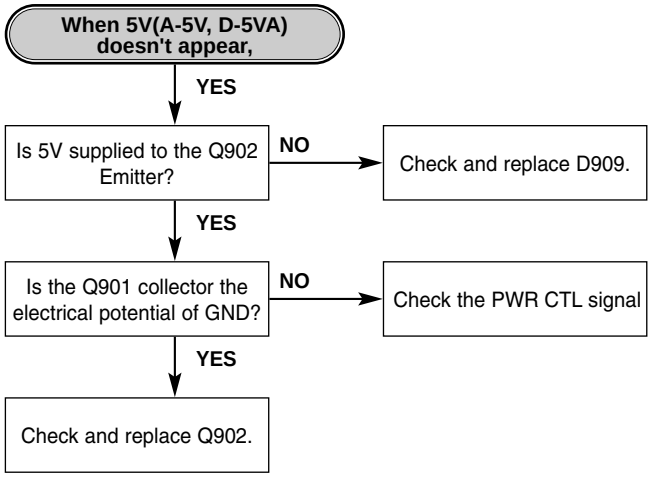
2) When +12V(I/O) doesn't appear,



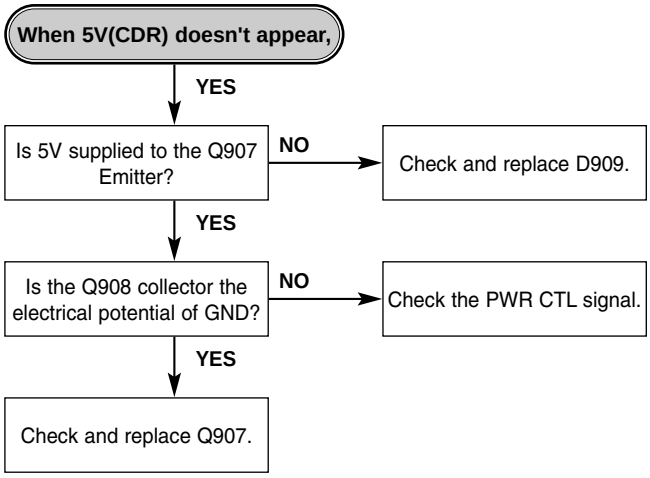
3) When -12V(I/O) doesn't appear,



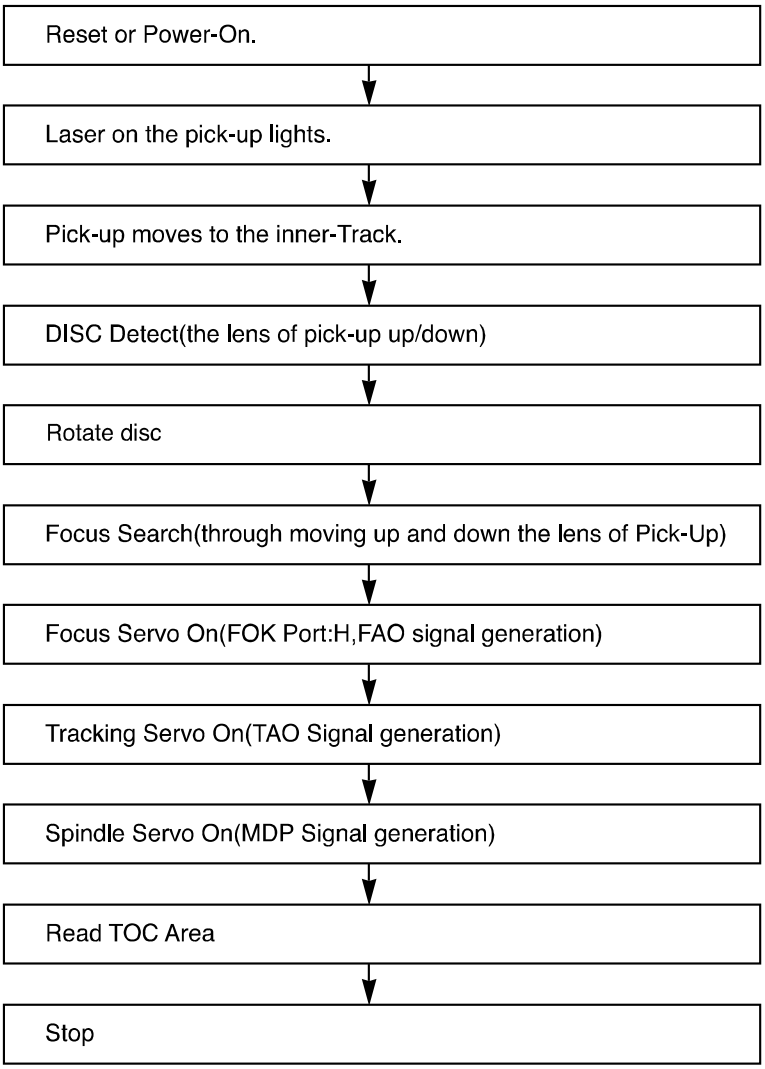
4) When 5V(A-5V, D-5V) doesn't appear,



5) When 5V(5VD CDR) doesn't appear,



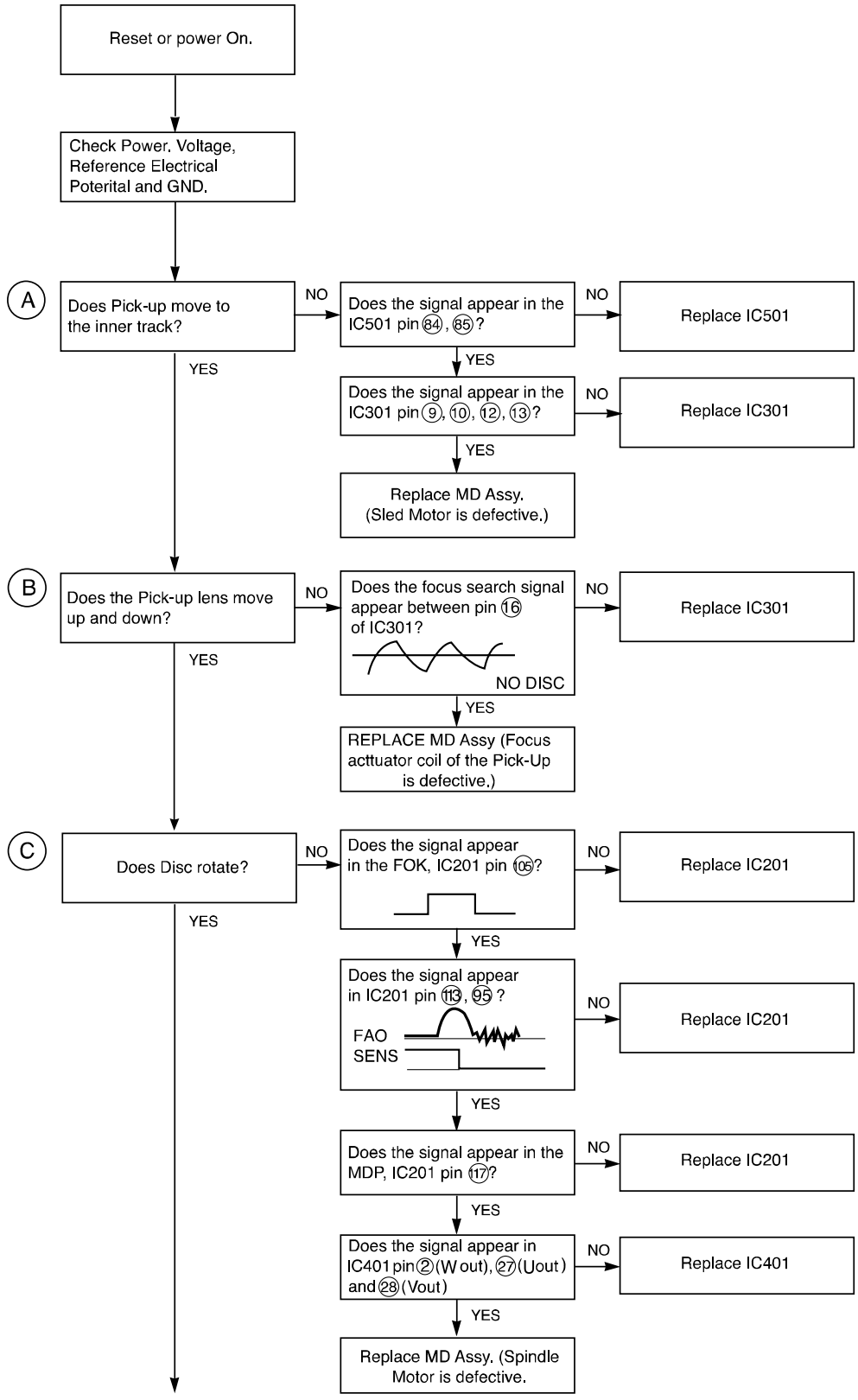
2. Initial Lead-in Operation

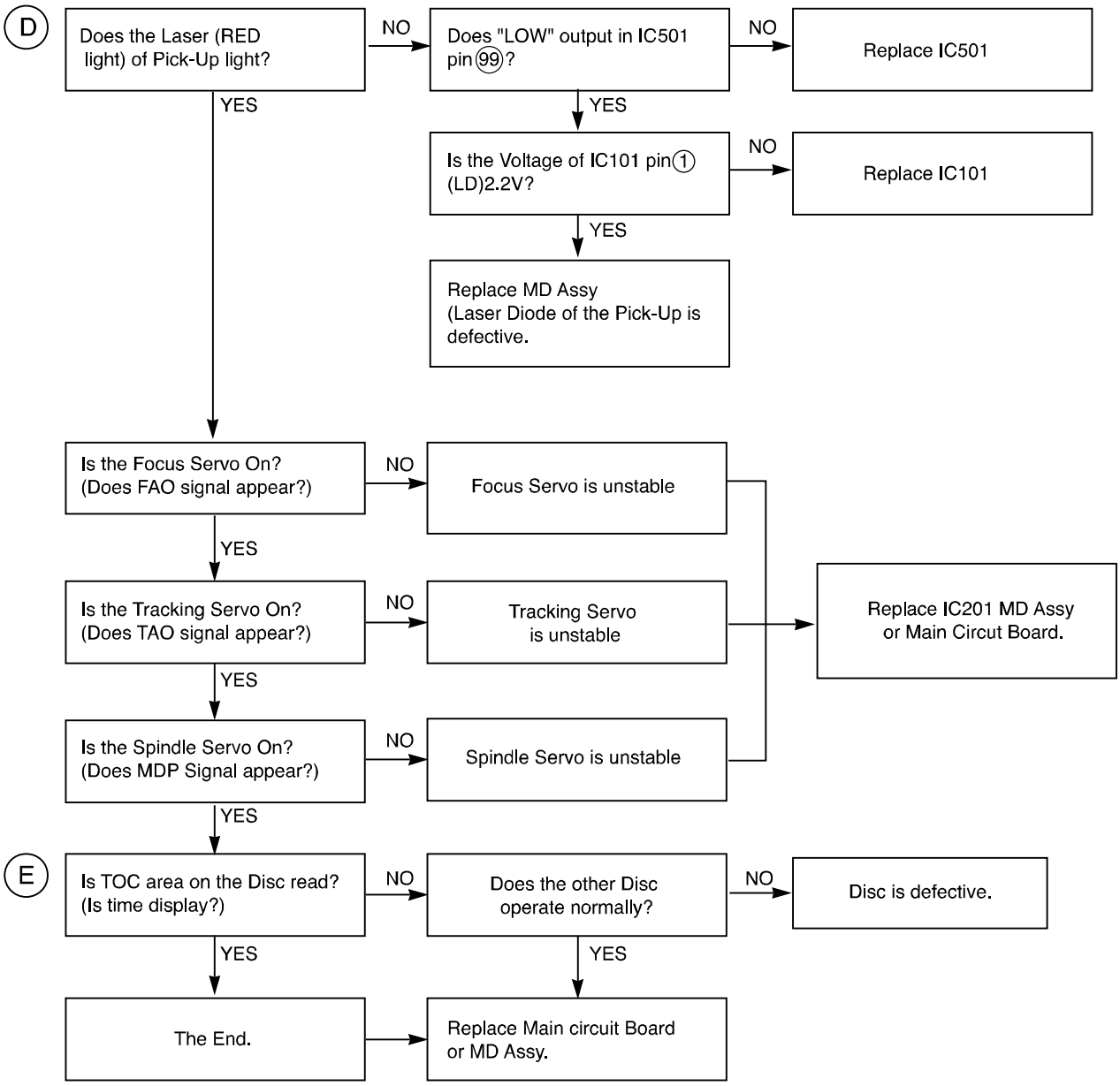

Reset or Power-On.
Laser on the pick-up lights.
Pick-up moves to the inner-Track.
DISC Detect(the lens of pick-up up/down)
Rotate disc
Focus Search(through moving up and down the lens of Pick-Up)
Focus Servo On(FOK Port:H,FAO signal generation)
Tracking Servo On(TAO Signal generation)
Spindle Servo On(MDP Signal generation)
Read TOC Area
Stop

3. Trouble List(Circuit)

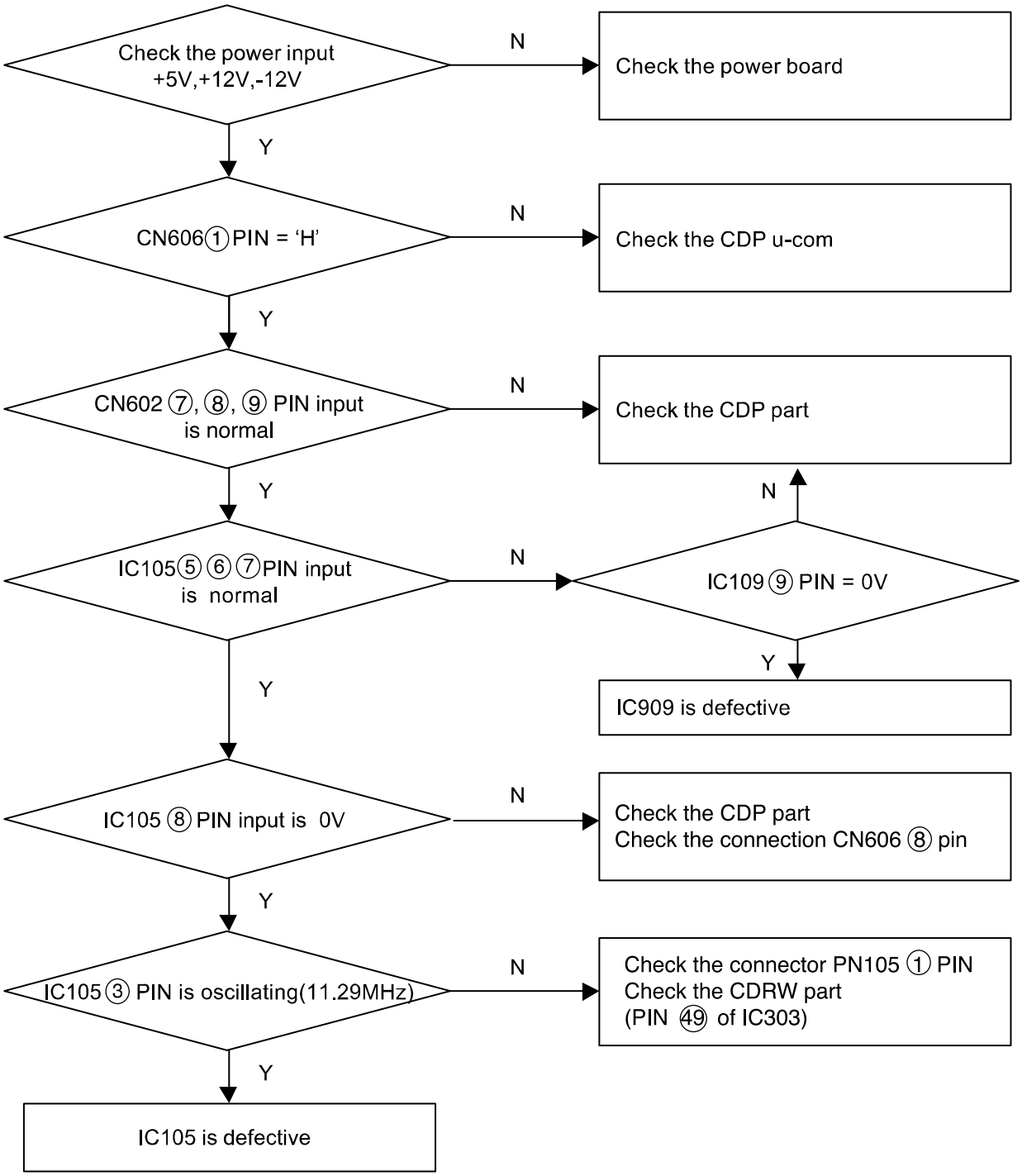
(In the Initial Lead-in Operation Mode)
A. Pick-Up doesn't move to the inner-track.
B. Pick-Up lens doesn't move up and down.
C. Disc doesn't rotate.
D. The Laser(RED) of Pick-Up doesn't light.
E. TOC isn't read.

4. Troubleshooting Guide(In the Initial Lead-in Operation Mode)

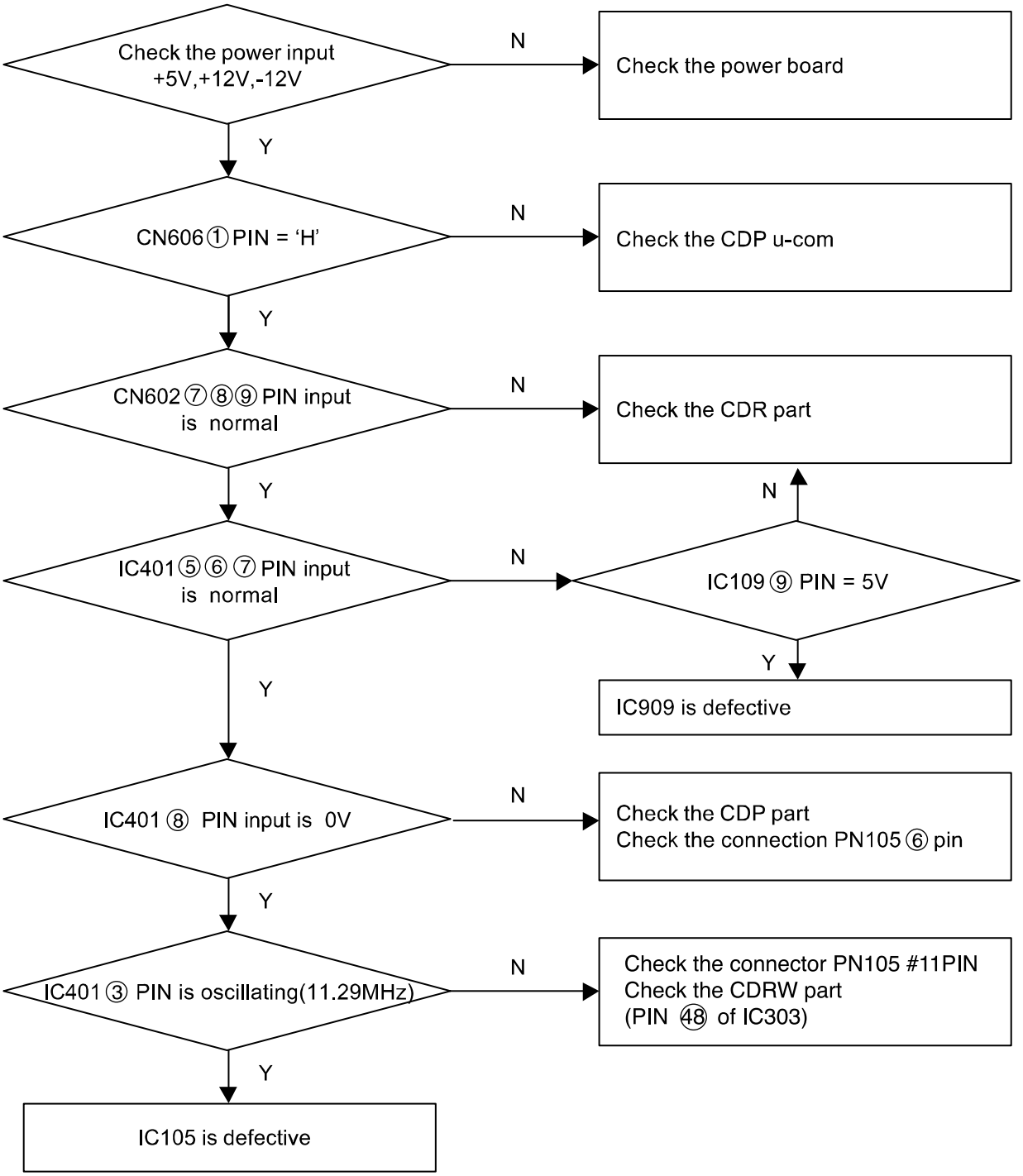


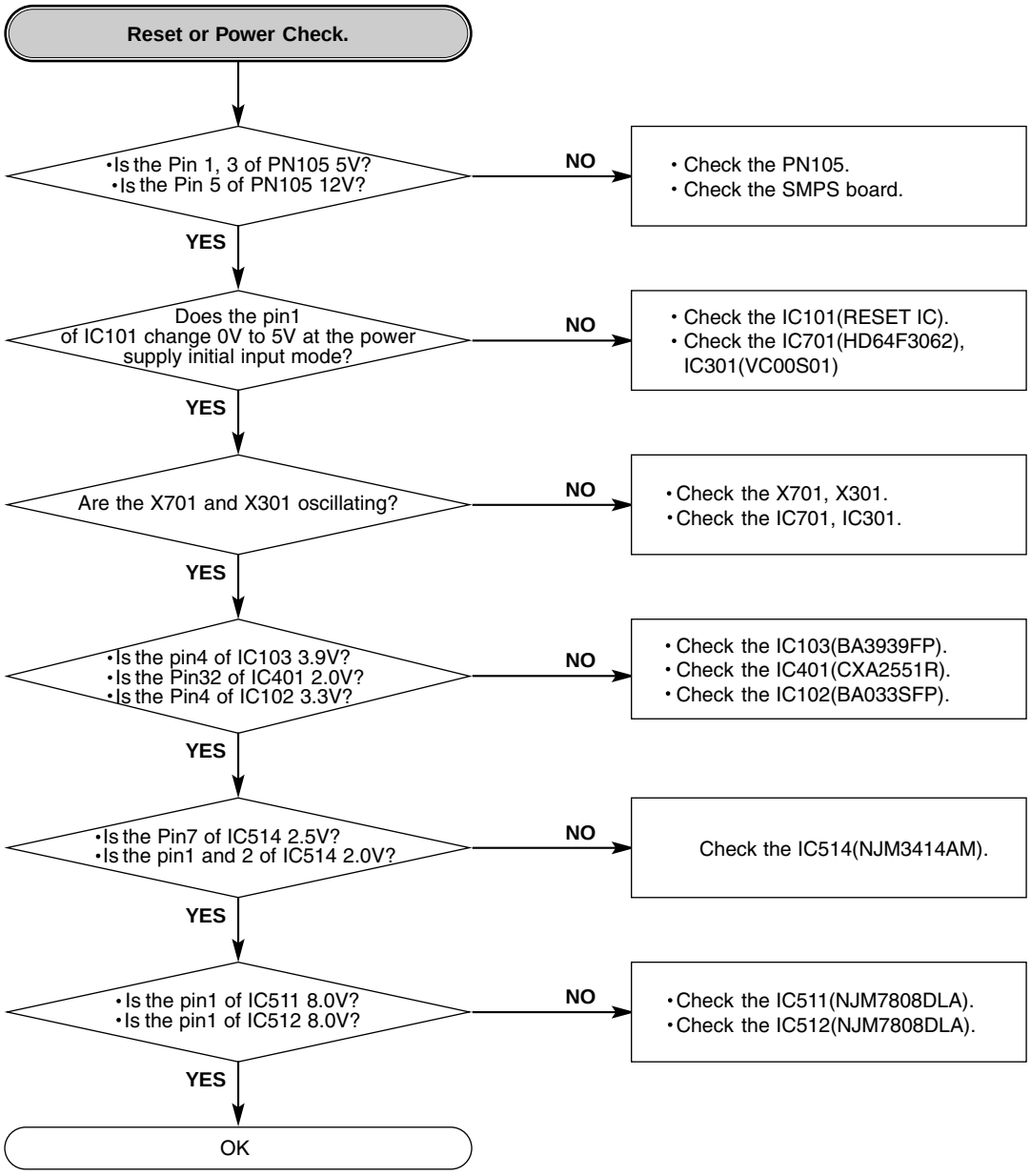

D
Does the Laser (RED light) of Pick-Up light?
NO
Does "LOW" output in IC501 pin 99?
NO
Replace IC501
YES
YES
Is the Voltage of IC101 pin 1 (LD)2.2V?
NO
Replace IC101
YES
Replace MD Assy (Laser Diode of the Pick-Up is defective.
Is the Focus Servo On? (Does FAO signal appear?)
NO
Focus Servo is unstable
YES
Is the Tracking Servo On? (Does TAO signal appear?)
NO
Tracking Servo is unstable
Replace IC201 MD Assy or Main Circut Board.
YES
Is the Spindle Servo On? (Does MDP Signal appear?)
NO
Spindle Servo is unstable
YES
E
Is TOC area on the Disc read? (Is time display?)
NO
Does the other Disc operate normally?
NO
Disc is defective.
YES
YES
The End.
Replace Main circuit Board or MD Assy.

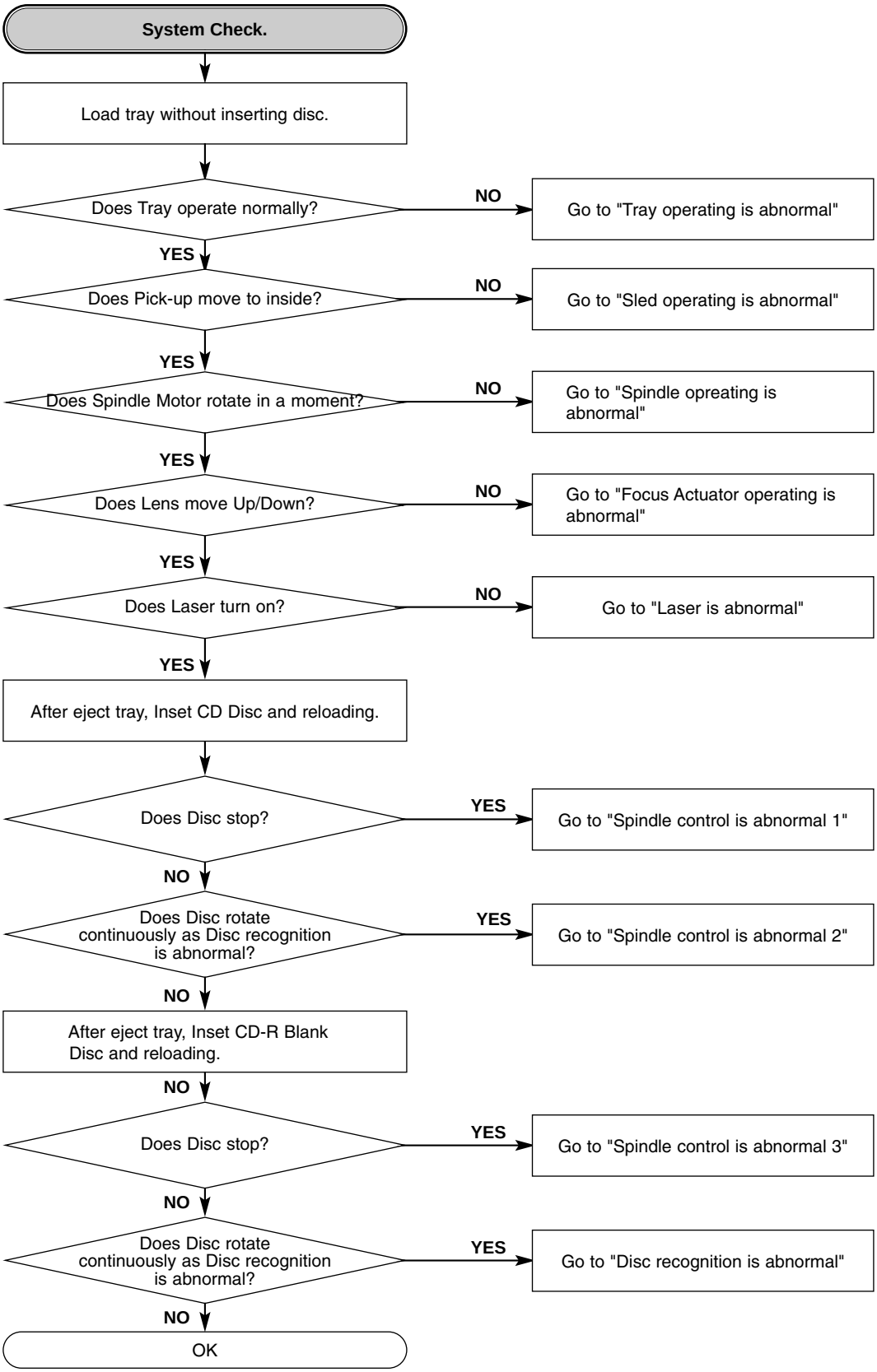
NO AUDIO(CDP JACK) *CURRENT DECK IS CDP*

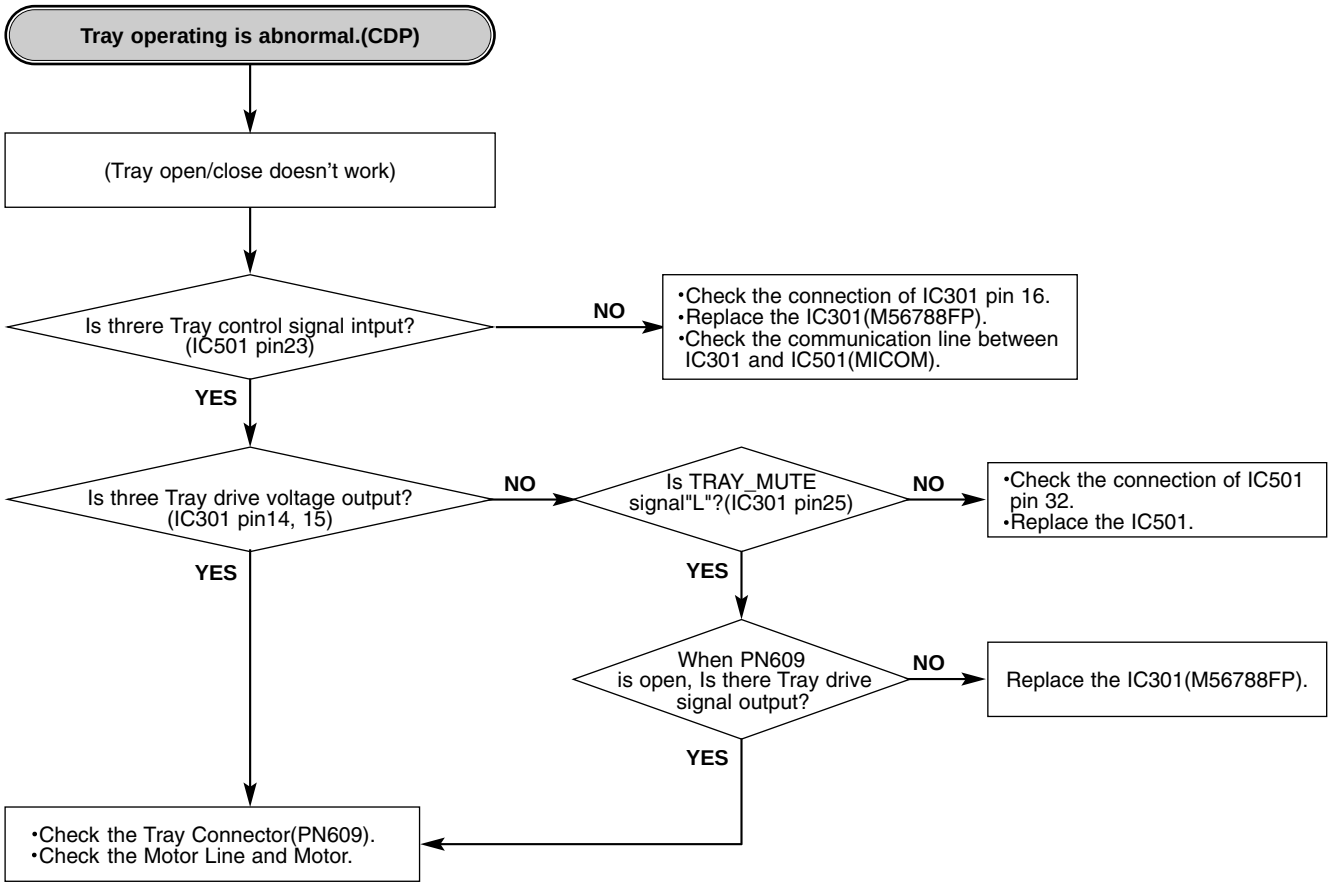


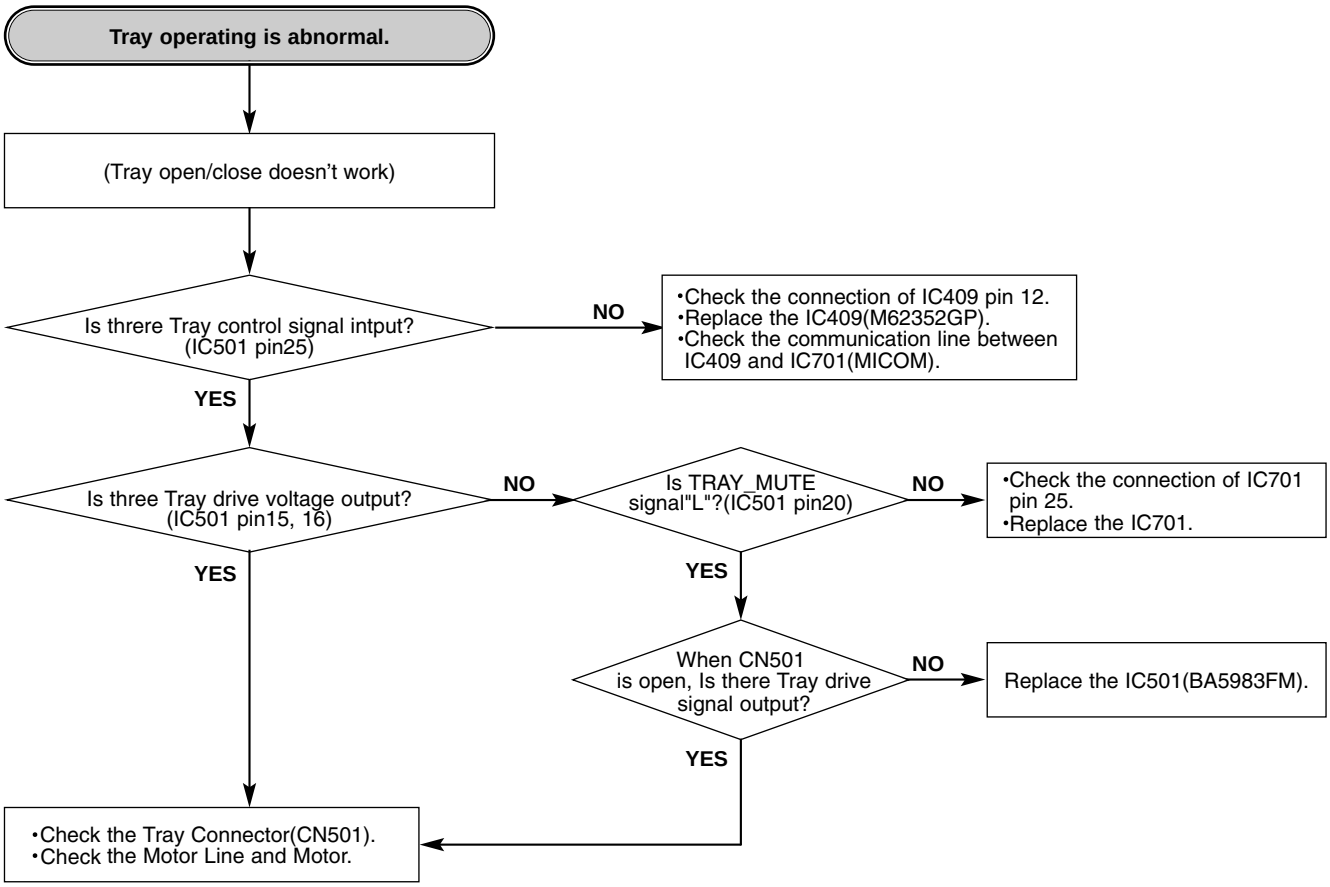
NO AUDIO(CDP JACK) *CURRENT DECK IS CDR*

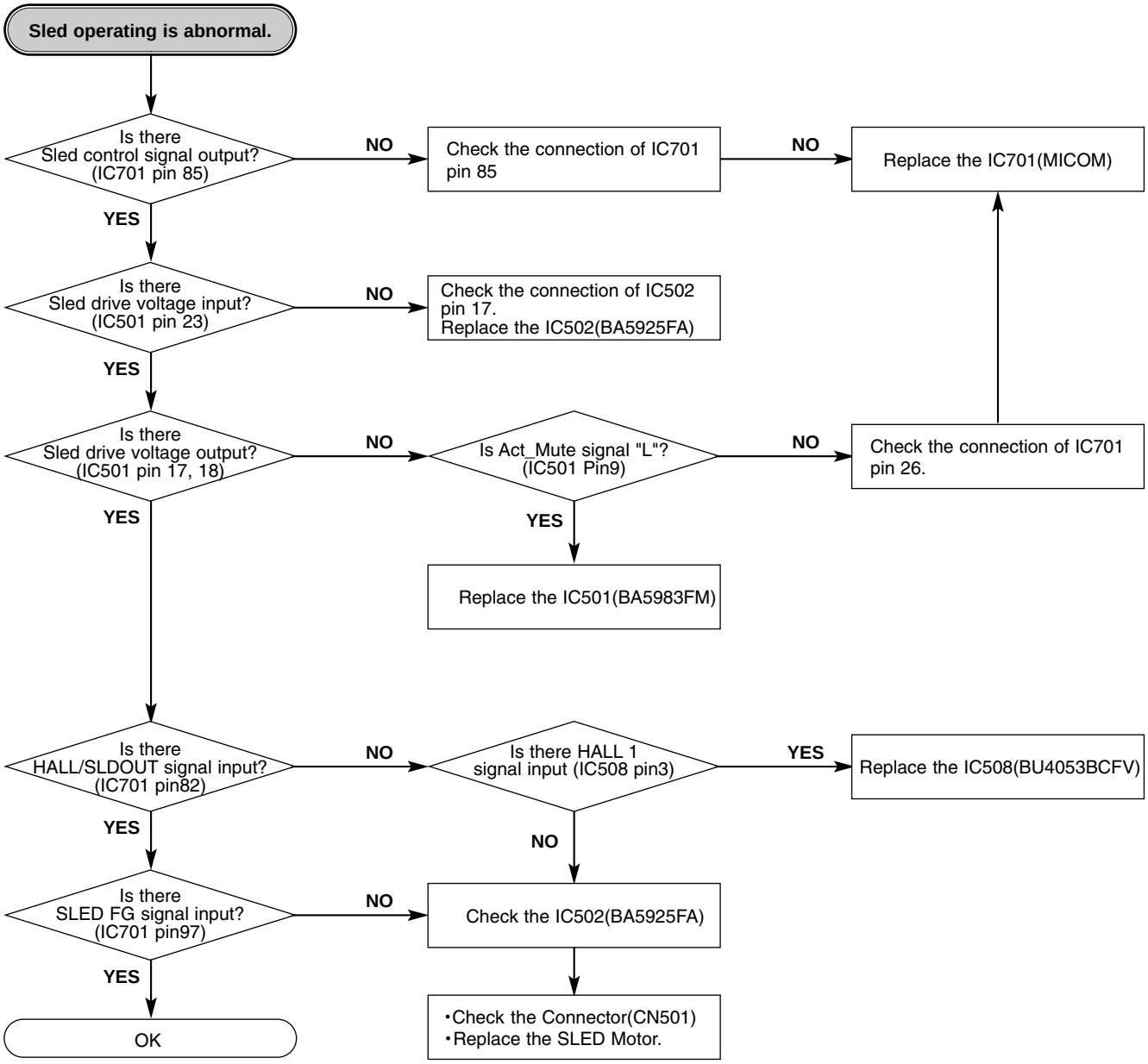


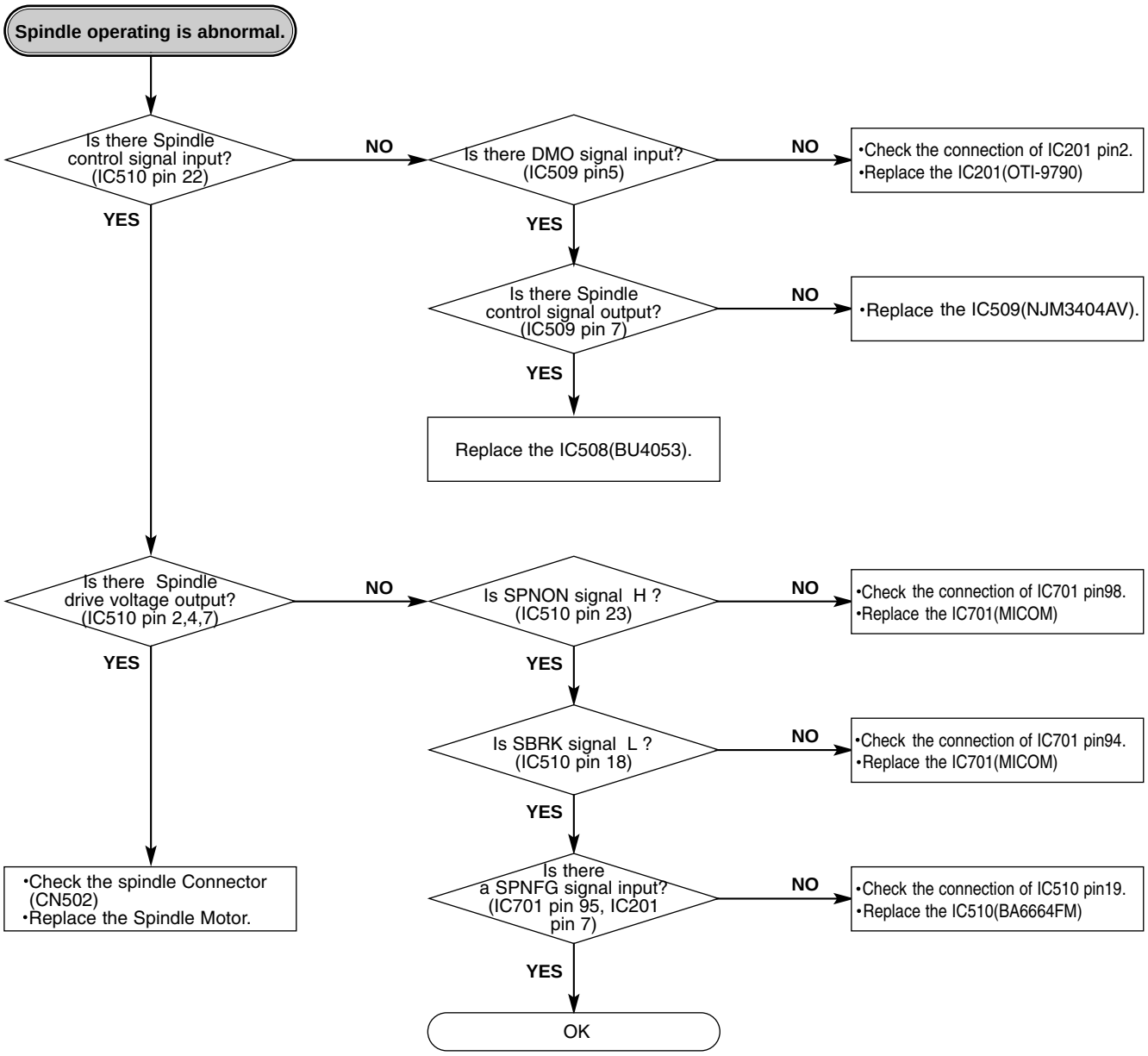

Reset or Power Check.
•Is the Pin 1, 3 of PN105 5V?
•Is the Pin 5 of PN105 12V?
NO
• Check the PN105.
• Check the SMPS board.
YES
Does the pin1 of IC101 change 0V to 5V at the power supply initial input mode?
NO
• Check the IC101(RESET IC).
• Check the IC701(HD64F3062), IC301(VC00S01)
YES
Are the X701 and X301 oscillating?
NO
• Check the X701, X301.
• Check the IC701, IC301.
YES
•Is the pin4 of IC103 3.9V?
•Is the Pin32 of IC401 2.0V?
•Is the Pin4 of IC102 3.3V?
NO
• Check the IC103(BA3939FP).
• Check the IC401(CXA2551R).
• Check the IC102(BA033SFP).
YES
•Is the Pin7 of IC514 2.5V?
•Is the pin1 and 2 of IC514 2.0V?
NO
Check the IC514(NJM3414AM).
YES
•Is the pin1 of IC511 8.0V?
•Is the pin1 of IC512 8.0V?
NO
• Check the IC511(NJM7808DLA).
• Check the IC512(NJM7808DLA).
YES
OK

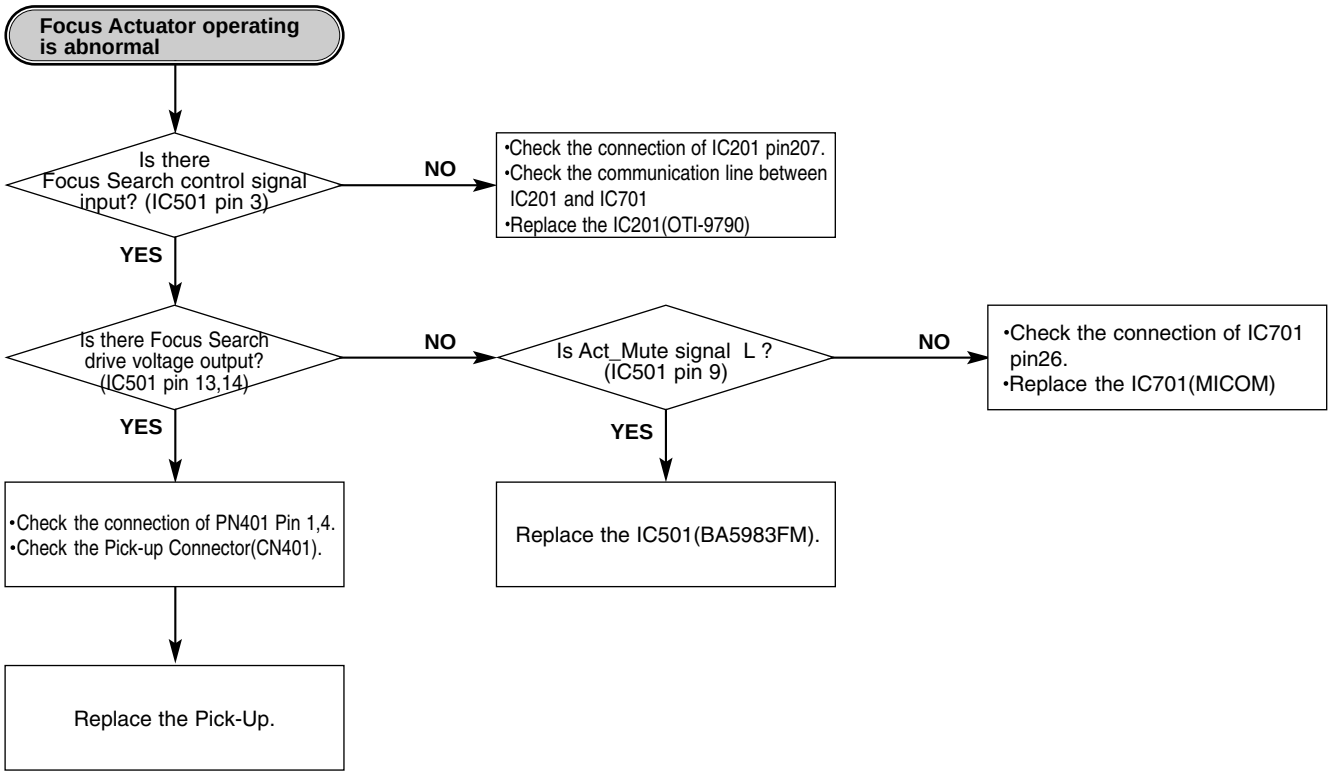

System Check.
Load tray without inserting disc.
Does Tray operate normally?
NO
Go to "Tray operating is abnormal"
YES
Does Pick-up move to inside?
NO
Go to "Sled operating is abnormal"
YES
Does Spindle Motor rotate in a moment?
NO
Go to "Spindle opreating is abnormal"
YES
Does Lens move Up/Down?
NO
Go to "Focus Actuator operating is abnormal"
YES
Does Laser turn on?
NO
Go to "Laser is abnormal"
YES
After eject tray, Inset CD Disc and reloading.
Does Disc stop?
YES
Go to "Spindle control is abnormal 1"
NO
Does Disc rotate continuously as Disc recognition is abnormal?
YES
Go to "Spindle control is abnormal 2"
NO
After eject tray, Inset CD-R Blank Disc and reloading.
NO
Does Disc stop?
YES
Go to "Spindle control is abnormal 3"
NO
Does Disc rotate continuously as Disc recognition is abnormal?
YES
Go to "Disc recognition is abnormal"
NO
OK

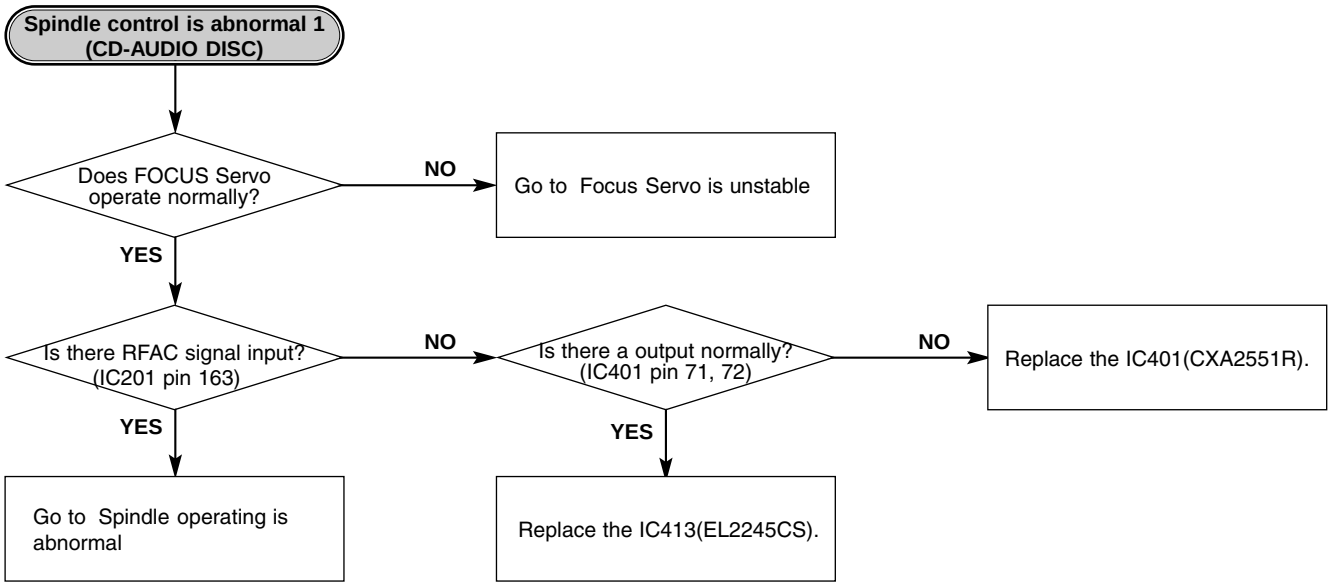

Tray operating is abnormal.(CDP)
(Tray open/close doesn't work)
Is threre Tray control signal intput? (IC501 pin23)
NO
•Check the connection of IC301 pin 16.
•Replace the IC301(M56788FP).
•Check the communication line between IC301 and IC501(MICOM).
YES
Is three Tray drive voltage output? (IC301 pin14, 15)
NO
Is TRAY_MUTE signal"L"?(IC301 pin25)
NO
•Check the connection of IC501 pin 32.
•Replace the IC501.
YES
YES
When PN609 is open, Is there Tray drive signal output?
NO
Replace the IC301(M56788FP).
YES
•Check the Tray Connector(PN609).
•Check the Motor Line and Motor.

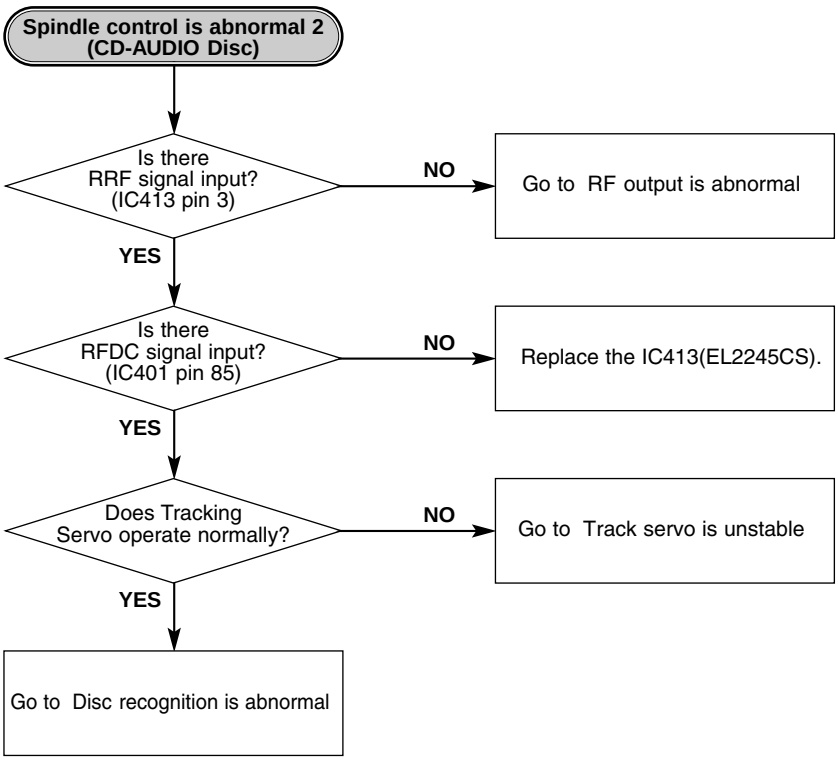

Tray operating is abnormal.
(Tray open/close doesn't work)
Is threre Tray control signal intput?
(IC501 pin25)
NO
•Check the connection of IC409 pin 12.
•Replace the IC409(M62352GP).
•Check the communication line between
IC409 and IC701(MICOM).
YES
Is three Tray drive voltage output?
(IC501 pin15, 16)
NO
Is TRAY_MUTE
signal"L"?(IC501 pin20)
NO
•Check the connection of IC701
pin 25.
•Replace the IC701.
YES
YES
When CN501
is open, Is there Tray drive
signal output?
NO
Replace the IC501(BA5983FM).
YES
•Check the Tray Connector(CN501).
•Check the Motor Line and Motor.

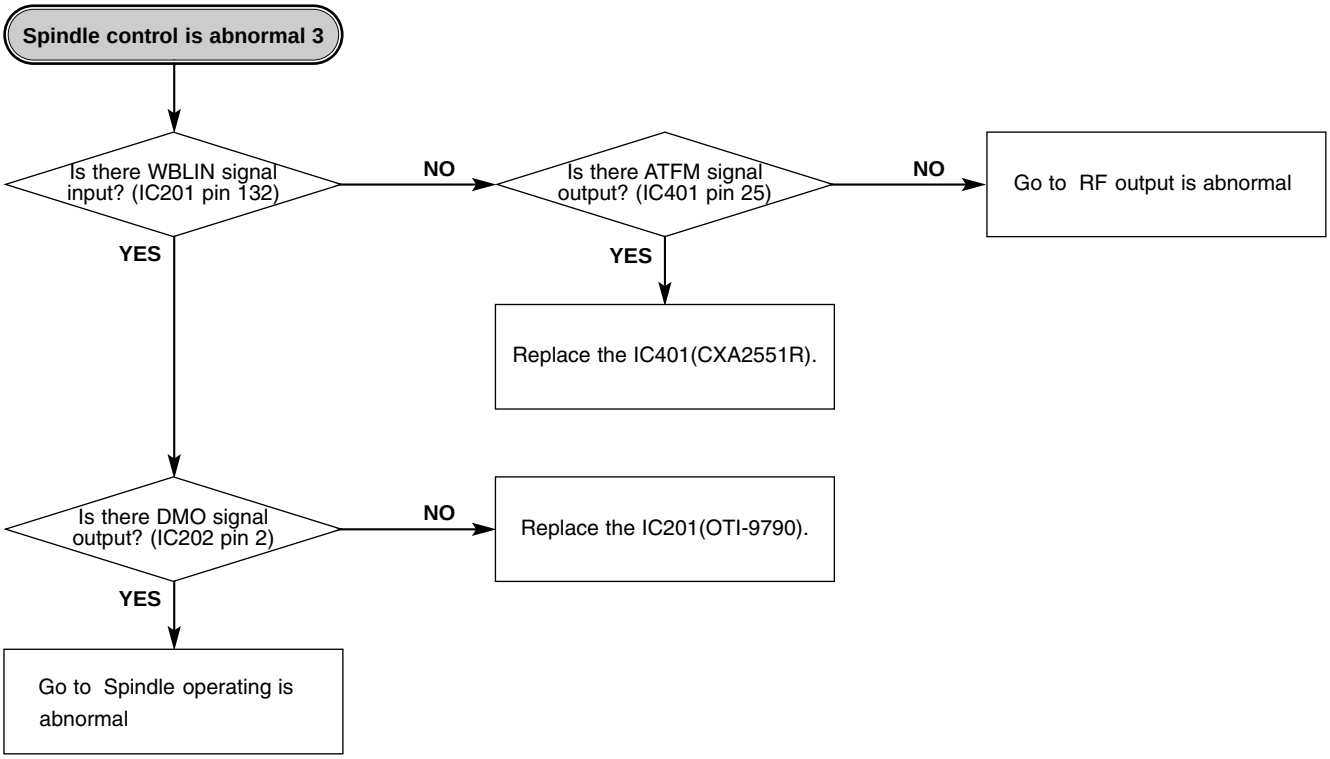

Sled operating is abnormal.
Is there Sled control signal output? (IC701 pin 85)
NO
Check the connection of IC701 pin 85
NO
Replace the IC701(MICOM)
YES
Is there Sled drive voltage input? (IC501 pin 23)
NO
Check the connection of IC502 pin 17. Replace the IC502(BA5925FA)
YES
Is there Sled drive voltage output? (IC501 pin 17, 18)
NO
Is Act_Mute signal "L"? (IC501 Pin9)
NO
Check the connection of IC701 pin 26.
YES
YES
Replace the IC501(BA5983FM)
Is there HALL/SLDOUT signal input? (IC701 pin82)
NO
Is there HALL 1 signal input (IC508 pin3)
YES
Replace the IC508(BU4053BCFV)
YES
NO
Is there SLED FG signal input? (IC701 pin97)
NO
Check the IC502(BA5925FA)
YES
•Check the Connector(CN501) •Replace the SLED Motor.
OK

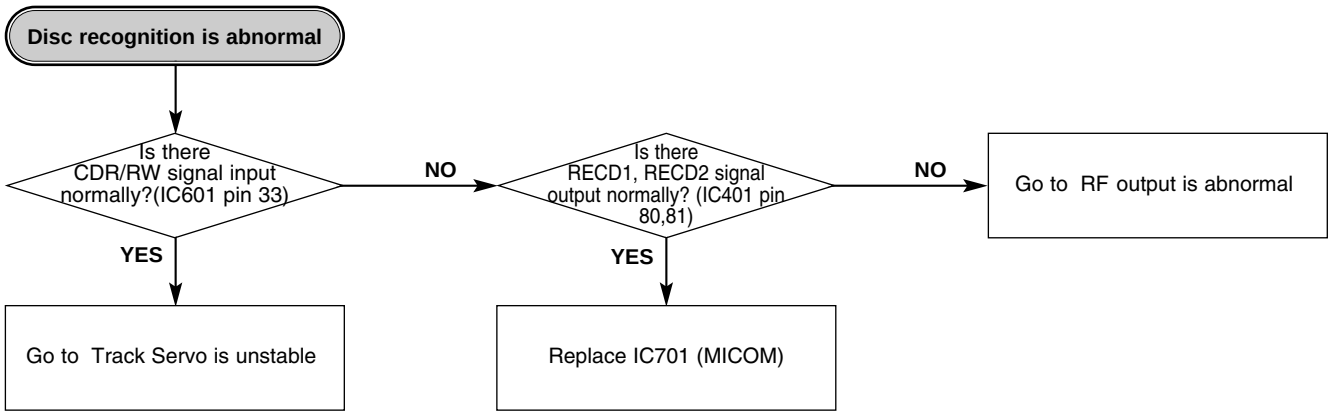

Spindle operating is abnormal.
Is there Spindle control signal input? (IC510 pin 22)
NO
Is there DMO signal input? (IC509 pin5)
NO
•Check the connection of IC201 pin2.
•Replace the IC201(OTI-9790)
YES
YES
Is there Spindle control signal output? (IC509 pin 7)
NO
•Replace the IC509(NJM3404AV).
YES
Replace the IC508(BU4053).
Is there Spindle drive voltage output? (IC510 pin 2,4,7)
NO
Is SPNON signal H ? (IC510 pin 23)
NO
•Check the connection of IC701 pin98.
•Replace the IC701(MICOM)
YES
YES
Is SBRK signal L ? (IC510 pin 18)
NO
•Check the connection of IC701 pin94.
•Replace the IC701(MICOM)
YES
•Check the spindle Connector (CN502)
•Replace the Spindle Motor.
Is there a SPNFG signal input? (IC701 pin 95, IC201 pin 7)
NO
•Check the connection of IC510 pin19.
•Replace the IC510(BA6664FM)
YES
OK

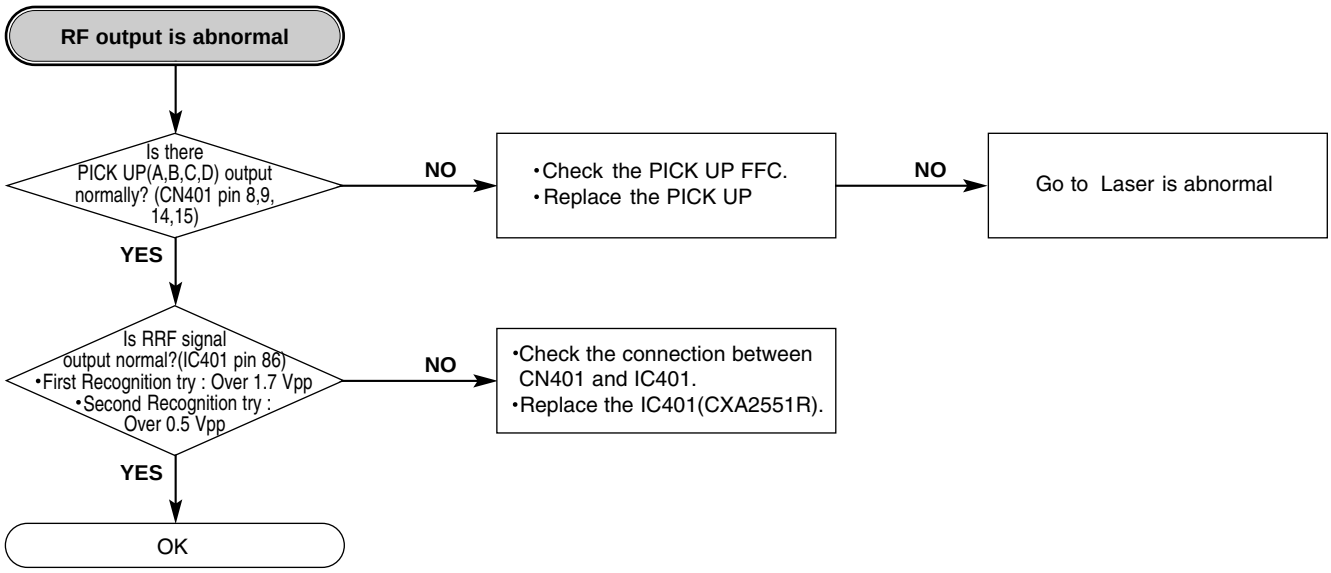

Focus Actuator operating is abnormal
Is there Focus Search control signal input? (IC501 pin 3)
NO
•Check the connection of IC201 pin207.
•Check the communication line between IC201 and IC701
•Replace the IC201(OTI-9790)
YES
Is there Focus Search drive voltage output? (IC501 pin 13,14)
NO
Is Act_Mute signal L ? (IC501 pin 9)
NO
•Check the connection of IC701 pin26.
•Replace the IC701(MICOM)
YES
YES
•Check the connection of PN401 Pin 1,4.
•Check the Pick-up Connector(CN401).
Replace the IC501(BA5983FM).
Replace the Pick-Up.

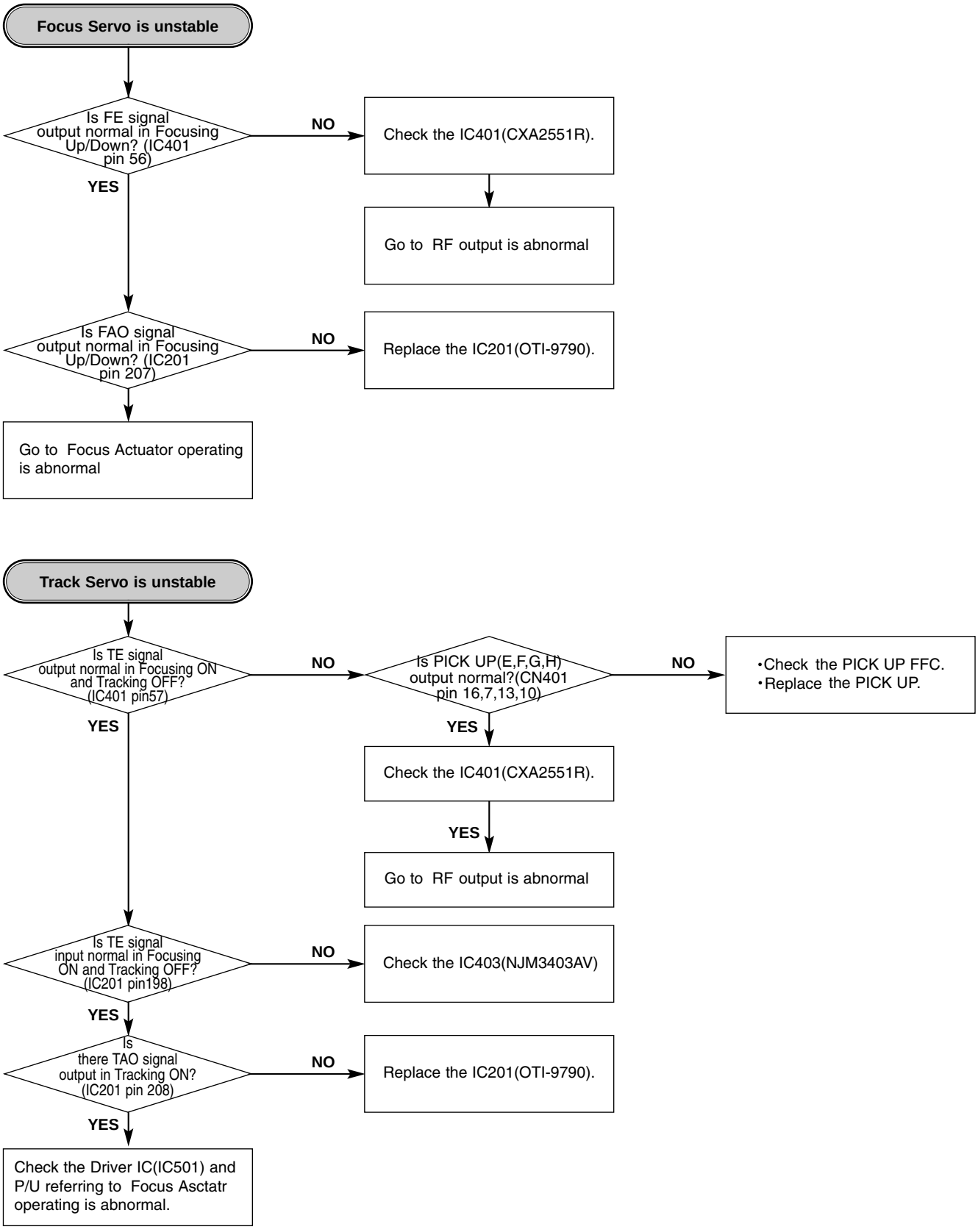

Spindle control is abnormal 1 (CD-AUDIO DISC)
Does FOCUS Servo operate normally?
NO
Go to Focus Servo is unstable
YES
Is there RFAC signal input? (IC201 pin 163)
NO
Is there a output normally? (IC401 pin 71, 72)
NO
Replace the IC401(CXA2551R).
YES
YES
Go to Spindle operating is abnormal
Replace the IC413(EL2245CS).

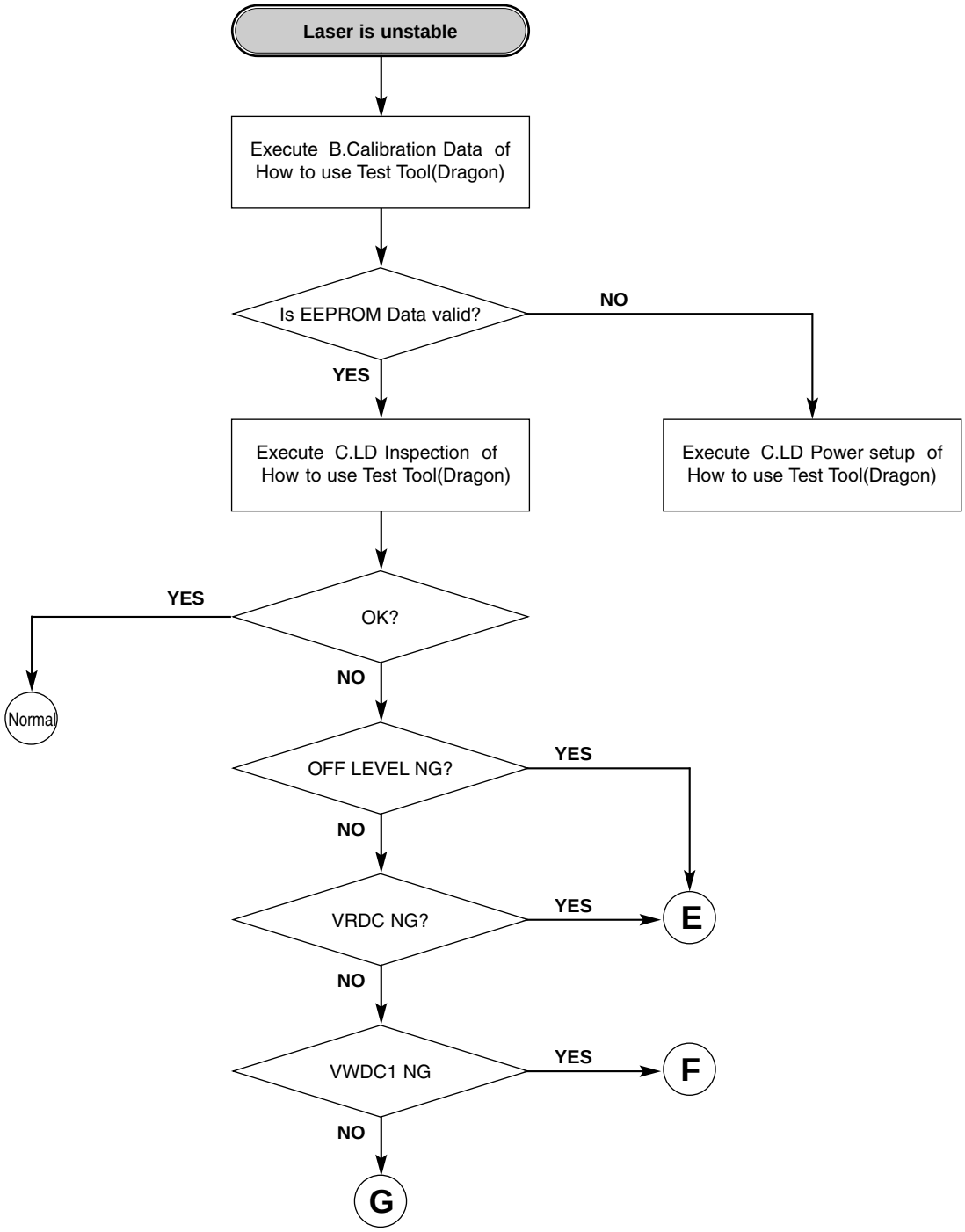

Spindle control is abnormal 2 (CD-AUDIO Disc)
Is there RRF signal input? (IC413 pin 3)
NO
Go to RF output is abnormal
YES
Is there RFDC signal input? (IC401 pin 85)
NO
Replace the IC413(EL2245CS).
YES
Does Tracking Servo operate normally?
NO
Go to Track servo is unstable
YES
Go to Disc recognition is abnormal

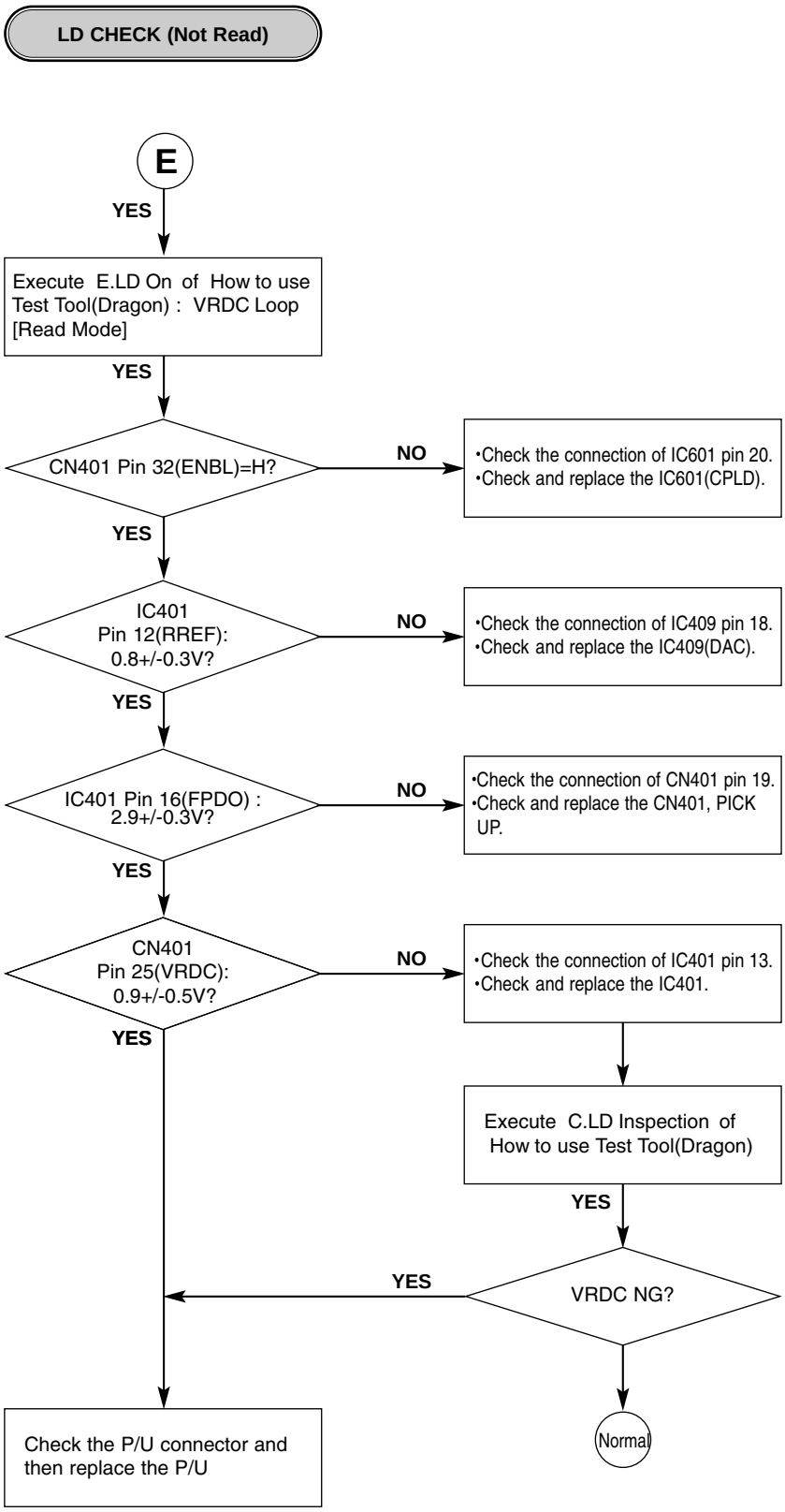

Spindle control is abnormal 3
Is there WBLIN signal input? (IC201 pin 132)
NO
Is there ATFM signal output? (IC401 pin 25)
NO
Go to RF output is abnormal
YES
YES
Replace the IC401(CXA2551R).
Is there DMO signal output? (IC202 pin 2)
NO
Replace the IC201(OTI-9790).
YES
Go to Spindle operating is abnormal

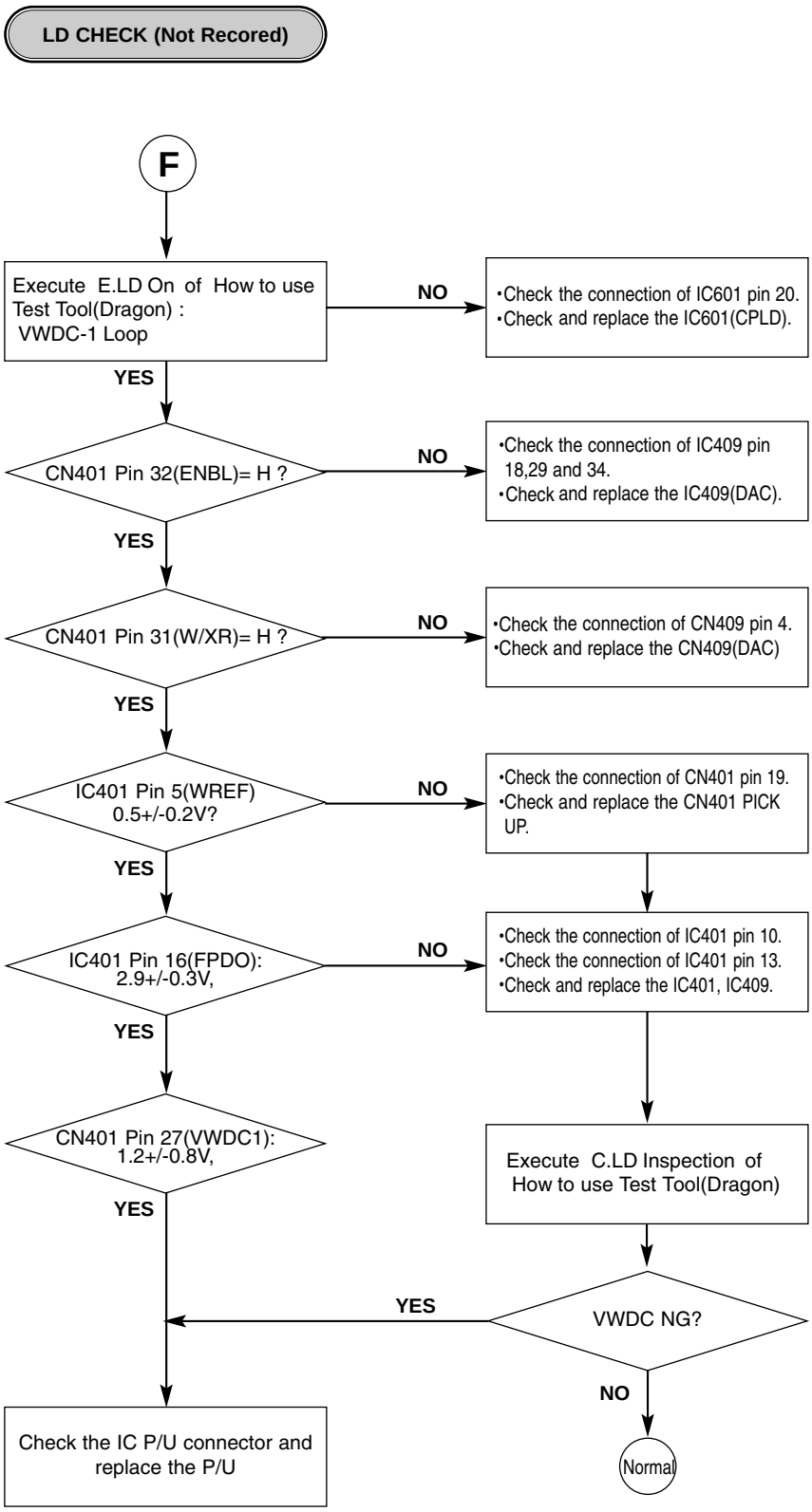

Disc recognition is abnormal
Is there CDR/RW signal input normally?(IC601 pin 33)
NO
Is there RECD1, RECD2 signal output normally? (IC401 pin 80,81)
NO
Go to RF output is abnormal
YES
YES
Go to Track Servo is unstable
Replace IC701 (MICOM)

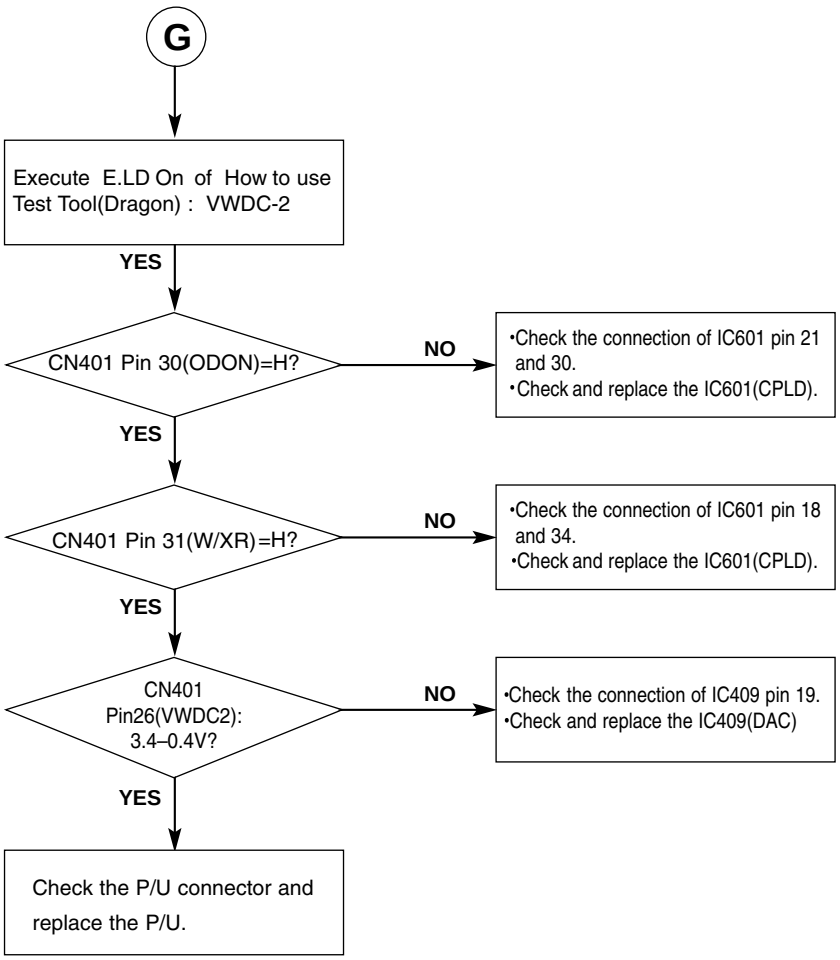

RF output is abnormal
Is there PICK UP(A,B,C,D) output normally? (CN401 pin 8,9, 14,15)
NO
•Check the PICK UP FFC.
•Replace the PICK UP
NO
Go to Laser is abnormal
YES
Is RRF signal output normal?(IC401 pin 86)
•First Recognition try : Over 1.7 Vpp
•Second Recognition try : Over 0.5 Vpp
NO
•Check the connection between CN401 and IC401.
•Replace the IC401(CXA2551R).
YES
OK

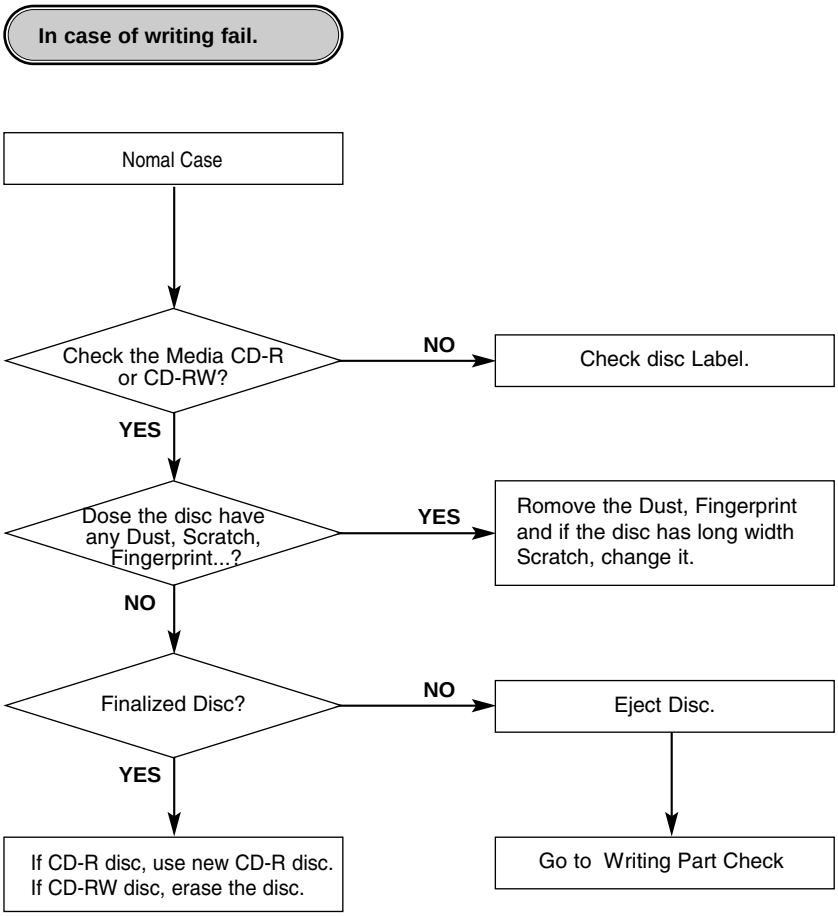

Focus Servo is unstable
Is FE signal output normal in Focusing Up/Down? (IC401 pin 56)
NO
Check the IC401(CXA2551R).
YES
Go to RF output is abnormal
Is FAO signal output normal in Focusing Up/Down? (IC201 pin 207)
NO
Replace the IC201(OTI-9790).
Go to Focus Actuator operating is abnormal
Track Servo is unstable
Is TE signal output normal in Focusing ON and Tracking OFF? (IC401 pin57)
NO
Is PICK UP(E,F,G,H) output normal?(CN401 pin 16,7,13,10)
NO
•Check the PICK UP FFC.
•Replace the PICK UP.
YES
Check the IC401(CXA2551R).
YES
Go to RF output is abnormal
YES
Is TE signal input normal in Focusing ON and Tracking OFF? (IC201 pin198)
NO
Check the IC403(NJM3403AV)
YES
Is there TAO signal output in Tracking ON? (IC201 pin 208)
NO
Replace the IC201(OTI-9790).
YES
Check the Driver IC(IC501) and P/U referring to Focus Asctatr operating is abnormal.

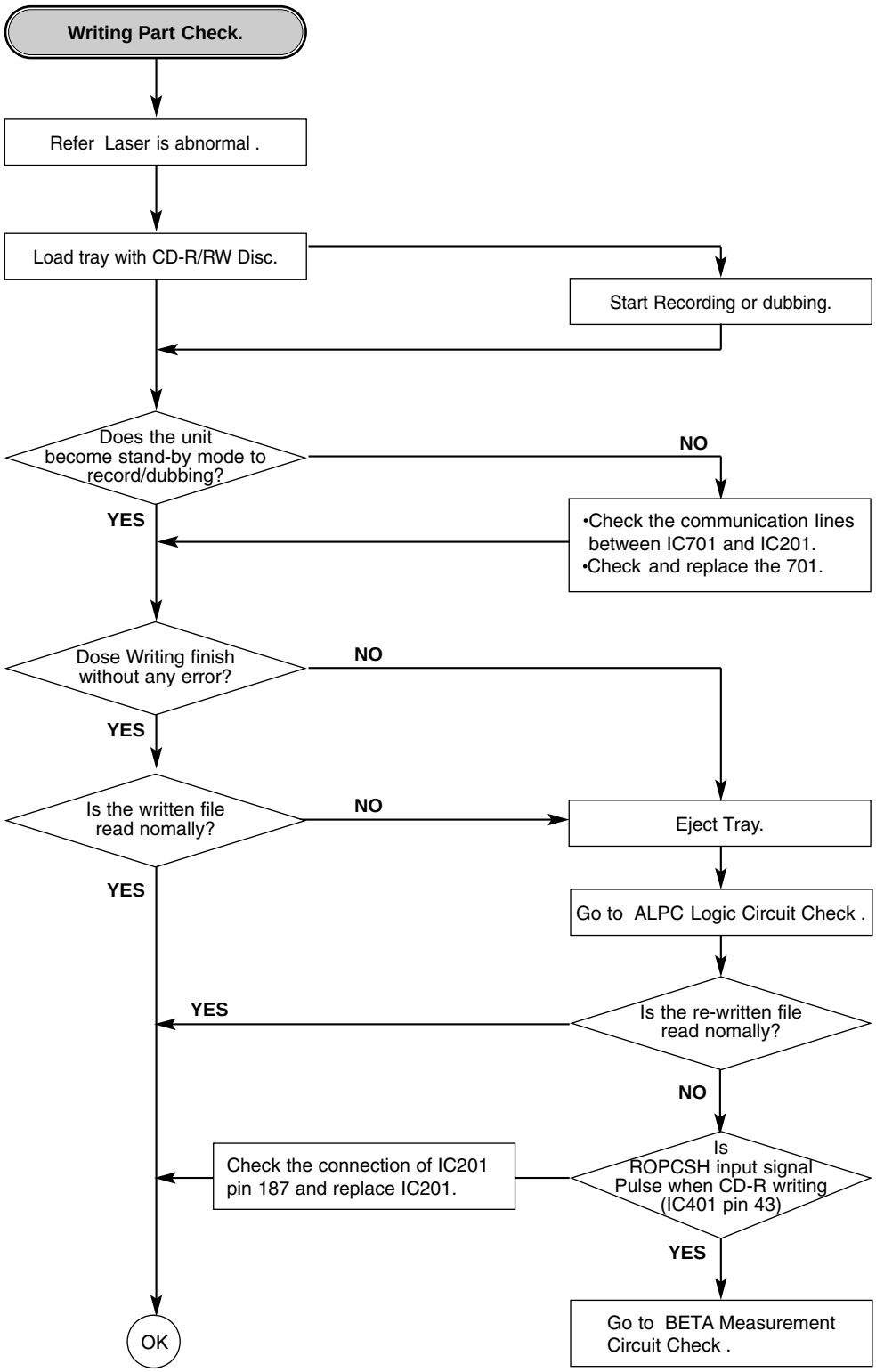

Laser is unstable
Execute B.Calibration Data of How to use Test Tool(Dragon)
Is EEPROM Data valid?
NO
YES
Execute C.LD Inspection of How to use Test Tool(Dragon)
Execute C.LD Power setup of How to use Test Tool(Dragon)
YES
OK?
NO
Normal
OFF LEVEL NG?
YES
NO
VRDC NG?
YES
E
NO
VWDC1 NG
YES
F
NO
G

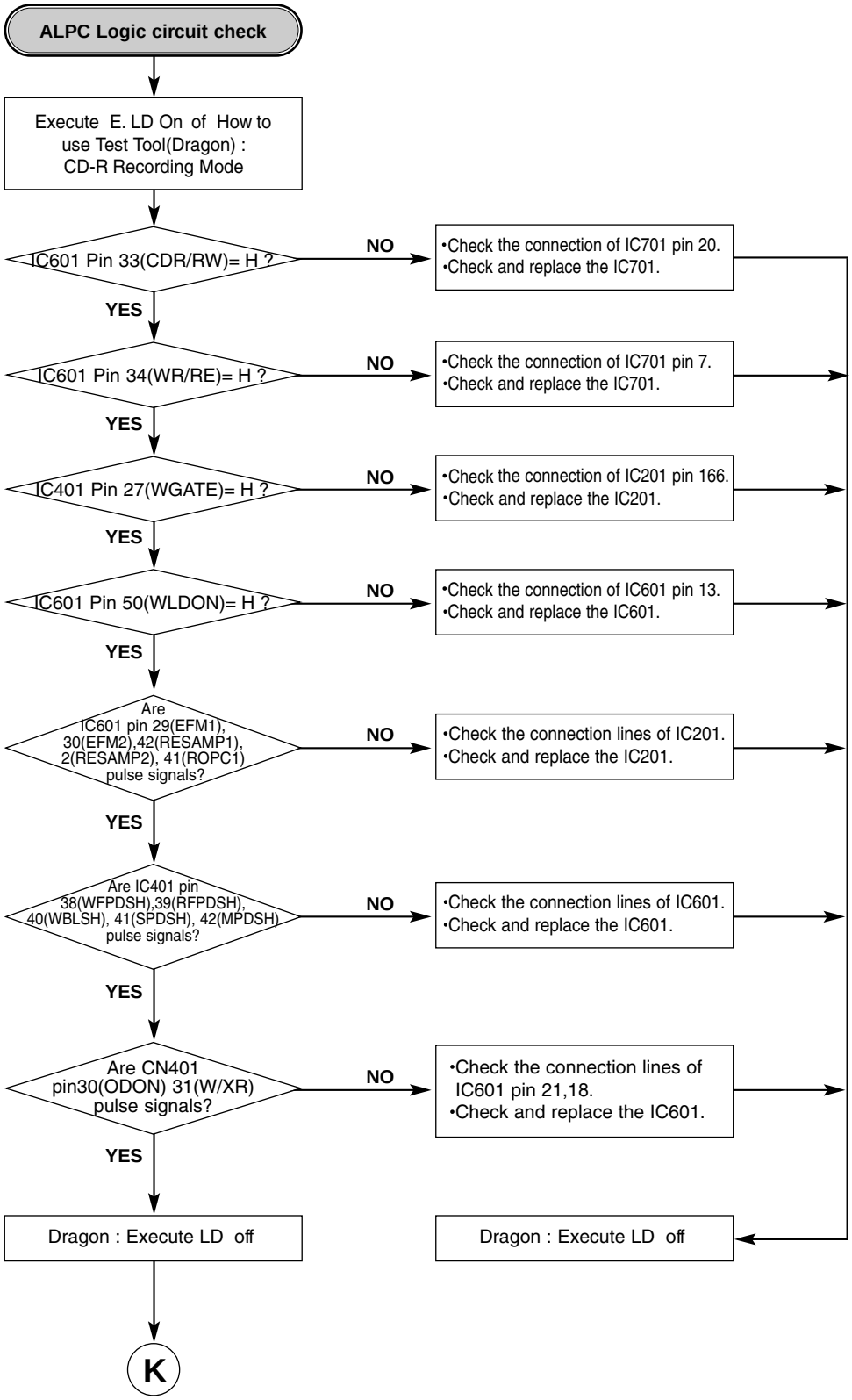

LD CHECK (Not Read)
E
YES
Execute E.LD On of How to use Test Tool(Dragon) : VRDC Loop [Read Mode]
YES
CN401 Pin 32(ENBL)=H?
NO
•Check the connection of IC601 pin 20.
•Check and replace the IC601(CPLD).
YES
IC401 Pin 12(RREF): 0.8+/-0.3V?
NO
•Check the connection of IC409 pin 18.
•Check and replace the IC409(DAC).
YES
IC401 Pin 16(FPDO) : 2.9+/-0.3V?
NO
•Check the connection of CN401 pin 19.
•Check and replace the CN401, PICK UP.
YES
CN401 Pin 25(VRDC): 0.9+/-0.5V?
NO
•Check the connection of IC401 pin 13.
•Check and replace the IC401.
YES
Execute C.LD Inspection of How to use Test Tool(Dragon)
YES
VRDC NG?
YES
Check the P/U connector and then replace the P/U
Normal

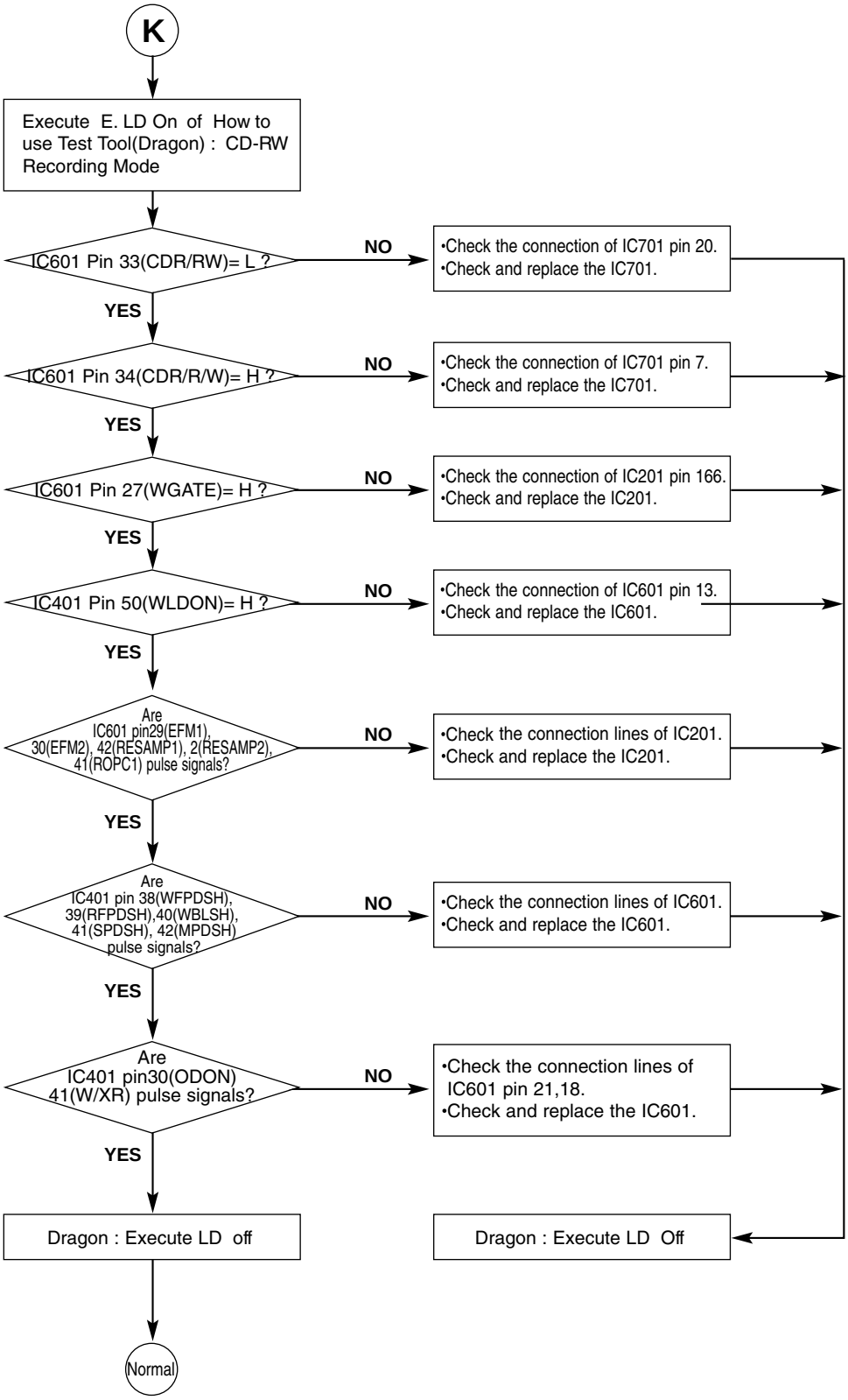

LD CHECK (Not Recored)
F
Execute E.LD On of How to use Test Tool(Dragon) : VWDC-1 Loop
NO
•Check the connection of IC601 pin 20.
•Check and replace the IC601(CPLD).
YES
CN401 Pin 32(ENBL)= H ?
NO
•Check the connection of IC409 pin 18,29 and 34.
•Check and replace the IC409(DAC).
YES
CN401 Pin 31(W/XR)= H ?
NO
•Check the connection of CN409 pin 4.
•Check and replace the CN409(DAC)
YES
IC401 Pin 5(WREF) 0.5+/-0.2V?
NO
•Check the connection of CN401 pin 19.
•Check and replace the CN401 PICK UP.
YES
IC401 Pin 16(FPDO): 2.9+/-0.3V,
NO
•Check the connection of IC401 pin 10.
•Check the connection of IC401 pin 13.
•Check and replace the IC401, IC409.
YES
CN401 Pin 27(VWDC1): 1.2+/-0.8V,
Execute C.LD Inspection of How to use Test Tool(Dragon)
YES
VWDC NG?
NO
Check the IC P/U connector and replace the P/U
Normal

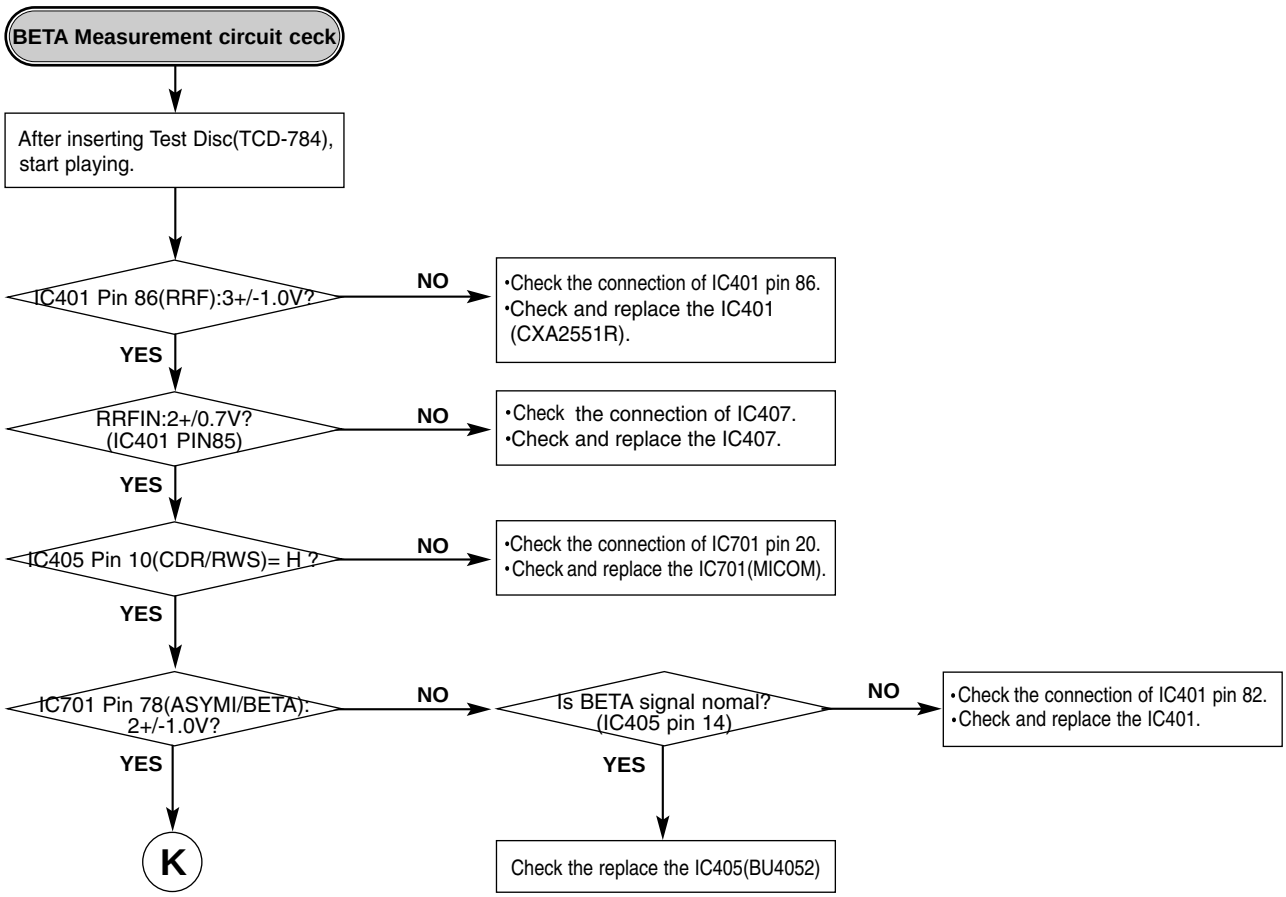

G
Execute E.LD On of How to use Test Tool(Dragon) : VWDC-2
YES
CN401 Pin 30(ODON)=H?
NO
•Check the connection of IC601 pin 21 and 30.
•Check and replace the IC601(CPLD).
YES
CN401 Pin 31(W/XR)=H?
NO
•Check the connection of IC601 pin 18 and 34.
•Check and replace the IC601(CPLD).
YES
CN401 Pin26(VWDC2): 3.4–0.4V?
NO
•Check the connection of IC409 pin 19.
•Check and replace the IC409(DAC)
YES
Check the P/U connector and replace the P/U.


In case of writing fail.
Nomal Case
Check the Media CD-R or CD-RW?
NO
Check disc Label.
YES
Dose the disc have any Dust, Scratch, Fingerprint...?
YES
Romove the Dust, Fingerprint and if the disc has long width Scratch, change it.
NO
Finalized Disc?
NO
Eject Disc.
YES
If CD-R disc, use new CD-R disc.
If CD-RW disc, erase the disc.
Go to Writing Part Check


Writing Part Check.
Refer Laser is abnormal .
Load tray with CD-R/RW Disc.
Start Recording or dubbing.
Does the unit become stand-by mode to record/dubbing?
NO
YES
•Check the communication lines between IC701 and IC201.
•Check and replace the 701.
Dose Writing finish without any error?
NO
YES
Is the written file read nomally?
NO
Eject Tray.
YES
Go to ALPC Logic Circuit Check .
YES
Is the re-written file read nomally?
NO
Check the connection of IC201 pin 187 and replace IC201.
Is ROPCSH input signal Pulse when CD-R writing (IC401 pin 43)
YES
OK
Go to BETA Measurement Circuit Check .


ALPC Logic circuit check
Execute E. LD On of How to use Test Tool(Dragon) : CD-R Recording Mode
IC601 Pin 33(CDR/RW)= H ?
NO
•Check the connection of IC701 pin 20.
•Check and replace the IC701.
YES
IC601 Pin 34(WR/RE)= H ?
NO
•Check the connection of IC701 pin 7.
•Check and replace the IC701.
YES
IC401 Pin 27(WGATE)= H ?
NO
•Check the connection of IC201 pin 166.
•Check and replace the IC201.
YES
IC601 Pin 50(WLDON)= H ?
NO
•Check the connection of IC601 pin 13.
•Check and replace the IC601.
YES
Are IC601 pin 29(EFM1), 30(EFM2),42(RESAMP1), 2(RESAMP2), 41(ROPC1) pulse signals?
NO
•Check the connection lines of IC201.
•Check and replace the IC201.
YES
Are IC401 pin 38(WFPDSH),39(RFPDSH), 40(WBLSH), 41(SPDSH), 42(MPDSH) pulse signals?
NO
•Check the connection lines of IC601.
•Check and replace the IC601.
YES
Are CN401 pin30(ODON) 31(W/XR) pulse signals?
NO
•Check the connection lines of IC601 pin 21,18.
•Check and replace the IC601.
YES
Dragon : Execute LD off
Dragon : Execute LD off
K


K
Execute E. LD On of How to use Test Tool(Dragon) : CD-RW Recording Mode
IC601 Pin 33(CDR/RW)= L ?
NO
•Check the connection of IC701 pin 20.
•Check and replace the IC701.
YES
IC601 Pin 34(CDR/R/W)= H ?
NO
•Check the connection of IC701 pin 7.
•Check and replace the IC701.
YES
IC601 Pin 27(WGATE)= H ?
NO
•Check the connection of IC201 pin 166.
•Check and replace the IC201.
YES
IC401 Pin 50(WLDON)= H ?
NO
•Check the connection of IC601 pin 13.
•Check and replace the IC601.
YES
Are IC601 pin29(EFM1), 30(EFM2), 42(RESAMP1), 2(RESAMP2), 41(ROPC1) pulse signals?
NO
•Check the connection lines of IC201.
•Check and replace the IC201.
YES
Are IC401 pin 38(WFPDSH), 39(RFPDSH),40(WBLSH), 41(SPDSH), 42(MPDSH) pulse signals?
NO
•Check the connection lines of IC601.
•Check and replace the IC601.
YES
Are IC401 pin30(ODON) 41(W/XR) pulse signals?
NO
•Check the connection lines of IC601 pin 21,18.
•Check and replace the IC601.
YES
Dragon : Execute LD off
Dragon : Execute LD Off
Normal


BETA Measurement circuit ceck
After inserting Test Disc(TCD-784), start playing.
IC401 Pin 86(RRF):3+/-1.0V?
NO
•Check the connection of IC401 pin 86.
•Check and replace the IC401 (CXA2551R).
YES
RRFIN:2+/0.7V? (IC401 PIN85)
NO
•Check the connection of IC407.
•Check and replace the IC407.
YES
IC405 Pin 10(CDR/RWS)= H ?
NO
•Check the connection of IC701 pin 20.
•Check and replace the IC701(MICOM).
YES
IC701 Pin 78(ASYMI/BETA): 2+/-1.0V?
NO
Is BETA signal nomal? (IC405 pin 14)
NO
•Check the connection of IC401 pin 82.
•Check and replace the IC401.
YES
YES
K
Check the replace the IC405(BU4052)

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110-8710, JAPAN TEL:03 (3827) 3111

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